



CITY OF MANCHESTER.

REPORT

ON THE

Health of the City of Manchester,

1930,

BY

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(1937)

PUBLIC HEALTH OFFICE,
1, MOUNT STREET,
MANCHESTER,
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MY LORD MAYOR, ALDERMEN,
AND MEMBERS OF THE CITY COUNCIL.

I have the honour to submit my last Annual Report, for the year 1921, in the form which that report has hitherto taken. As the number of deaths is smaller than that for 1920, the crude death-rate for the year is, again, the lowest on record. The natural rate of increase is over 10 per 1,000. Infant mortality maintains the position which it has gained, but which cannot be regarded as a goal. The advance which has been made is shown on page 23, while figures are given on page 30 which show statistics for the Manchester of 1891, in that year, and in 1921.

As I am little likely to exercise any influence on future policy, it appears useless here to express views on that subject.

There is, however, one subject to which I may recur. There can be no doubt of the bad policy from the point of view of the Public Health, and probably as a matter of economy, in the tipping of organic refuse within the area of the City.

It is deserving of consideration whether, taking into account the uses to which land may be put, it would not be economical, as well as a great gain to health, if all organic refuse not required at a distance from the City could not be destructed at suitable stations so arranged as to reduce as far as practicable the cost of cartage.

I would direct attention to the serious poverty existing in 1921, and revealed by the figures on page 14.

Corresponding to these there is a rise, not it is true a great one, in the death-rate from Tuberculosis.

The recent history of that disease is most hopeful; but it has intimate associations with poverty, and the measure of success so far achieved is, in my opinion, to no small extent due to the various measures which the Corporation has taken to mitigate the effects of distress, wisely administered as it is.

The erection of a Sanatorium for tuberculous children is now under consideration.

The incidence of Venereal Disease would seem to be diminishing. But there appears to be a strange reluctance to pursue the policy outlined by the Royal Commission, namely, to treat Venereal Disease as a communicable and preventable disease. No policy which does not embrace prevention will be of permanent value. At the same time the best measures to be taken to this end admit of some difference of opinion.

The immense amount of work now done in connection with Maternity and Child Welfare will be seen by examination of the tables facing page 168 and page 176. I am convinced that the great advance achieved in connection with Child Welfare has been largely due to the long-continued education of mothers by the Health Visitors, the Maternity and Child Welfare Centres, the Schools for Mothers, and the School Medical Officer with his staff. In this rests the hope that it will continue.

The sections giving particulars with regard to Housing (page 208 and the following pages and tables) show that a most useful and beneficial work has been done in the past. The State aided schemes had not made much headway at the end of 1921. A great improvement has been projected, and is in progress, but it does not immediately help the poorest section of the community. Formerly, when houses were taken down or closed, so long as private building was active and new houses not too expensive, the population was gradually pushed outwards, to the general benefit of the community, and without any increase of overcrowding.

This relief is no longer possible, and the housing conditions of the very poor continue to become more pressing.

The only immediate resource open appears to be in giving up expenditure on articles of personal indulgence.

I would express my gratitude to my colleagues, past and present, medical and lay, who made possible the accomplishment of my task. In later years, I am especially indebted to Dr. Sutherland, who has so well sustained the growing structure of the Public Health and Clinical Administration of Tuberculosis, in a way which I could not have done.

I should like to single out for special acknowledgment Mr. Ernest Dunks, my Clerk (Mr. Thomas Chalmers,) and my three Special Inspectors (J. Higginbotham, J. E. Lord, and A. Price).

The successful manner in which the Department of Maternity and Child Welfare has been built up and conducted is sufficient testimony to the ladies who have been responsible.

But I leave all the sections of my work with confidence that they will be skilfully and energetically managed.

My work has been chiefly under the Sanitary Committee, and it has been a great pleasure to me to work with the three Chairmen of that Committee who have filled and adorned that position during my term of office, Aldermen Walton Smith, James Fildes, and W. T. Jackson.

I may be permitted to refer to the loss recently sustained in the death of that great man, Prof. Delépine, who by his investigations and devoted labours in connection with public health rendered much service, and brought honour to the City.

There are many others to whom we owe the progress which has been achieved, but it is not possible here to enumerate them. I would like to acknowledge the service rendered to Housing and to the advancement of Maternity and Child Welfare by Councillor T. R. Marr, and also Miss Ashton's valuable services to the cause of Child Welfare.

Alderman Dr. A. W. Chapman, again, was instrumental in founding the administration of the Midwives' Act on sound lines.

To the practitioners of the City I owe invaluable and indispensable help in dealing with the problems of disease.

To the City Council I am indebted for the support which they have given me for 27 years.

I have the honour to be,

Your obedient Servant,

JAMES NIVEN,
Medical Officer of Health.

ANNUAL REPORT.

STATISTICAL AND GENERAL.

As this is the last Annual Report which I have to present, and as the Ministry of Health require only a skeleton statement for 1921, I have followed the usual order pursued in previous reports except for the year 1920. An excellent index is always provided, and there is, therefore, no difficulty in finding any section.

The usual figures are given in the front page. The principal items requiring comments are the low death-rate, the considerable excess of births over deaths, amounting to 10·9 per 1,000 of the population, and the continued fall in infantile mortality. The number of persons at the Census per house was 4·6, being practically identical with that at the Census in 1911. But, owing to the comparatively large number of unfit houses at present in occupation, and the large number of marriages in recent years, it may be reckoned that overcrowding has, in effect, increased.

The percentage of deaths in public institutions is the highest recorded, a fact due, no doubt, to the widespread poverty existing in 1921.

A table of meteorological data for the year is inserted. One feature of these data is the high amount of sunshine which prevailed from April to September inclusive. Correspondingly high atmospheric temperatures are to be noted. Rainfall was low except during August. The year was, therefore, favourable to vegetation and to health generally. It was also very favourable to the genesis of flies, and to those classes of disease which flies are known or may be discovered to disseminate.

It has been usual to give a table showing the relative death-rate of males and females. It might be inferred that the death-rates in 1921 were higher than in 1920. But this is not so, as the population on which the death-rates were calculated in 1920 was too high. The death-rate for 1920 may now be given as approximately 13·75. Whether the population for 1921 is, even yet, sufficiently corrected may be doubted. The test may be applied to it that the relation of the female to the male death-rate is remarkably constant. Thus, of the total death-rate the female gave a percentage in 1911 of 45·50, in 1912 of 45·60, in 1913 of 45·33, and in 1914 of 45·42. In 1921 the figures given show for the female death-rate a percentage of 43·94. The estimated figures of populations, male and female, may therefore possibly be erroneous in 1921. (See Table I., page 3.)

As the influence of impoverishment makes itself felt in the statistics for 1921, I have inserted figures kindly furnished by Mr. J. Macdonald, showing the amount of poor law relief in that year.

STATISTICAL.

The following are general statistics for the year 1921 :—

Area of the City in acres	21,690
Population at the Census, 1921	730,551
Estimated population at the { Males 351,514 } middle of 1921 { Females 392,486 }	744,000
No. of persons per acre.....	34
Persons married per 1,000 of population in the Manchester Union..	19.34
Births in the City of Manchester { Males 8,925 } { Females..... 8,676 }	17,601
Annual birth-rate per 1,000 of population	23.66
Deaths .. { Males 5,383 } { Females 4,710 }	10,093
Recorded annual death-rate per { Males 15.31 } 1,000 of population..... { Females 12.00 } persons ...	13.57
Deaths under 1 year of age per 1,000 births	96.98
Excess of registered births over deaths	7,508
Percentage mortality occurring in public institutions.....	36.41
No. of separated inhabited houses at the Census in June, 1921 ..	160,385
„ „ tenements „ „ ..	166,300
No. of persons per inhabited house	4.6
„ „ „ tenement	4.5
Corresponding figures, 1911, house	4.9
„ „ „ tenement	4.7

The marriage rate remains high, being below only those for 1920 and 1915. The birth-rate for 1921 also is sustained, though lower than in 1920.

CITY OF MANCHESTER (299, OLDHAM ROAD)—METEOROLOGY, 1921. (Means of the Monthly Readings.)

	Barometer	Dry Bulb	Wet Bulb	Humidity	Maximum Temperature	Minimum Temperature	Mean Temperature in Shade	Sun Maximum	Grass Minimum	One Foot	Four Feet	Total Rainfall (inches)	Total No. of Wet Days	Total Hours of Sunshine	Average Mean Daily Temperature 1881-1915 (extracted from book of normals)	Average Rainfall 1892-1920	Average Hours of Sunshine 1892-1920	Fog Noted
January	29·891	45·2	43·8	89	49·2	40·1	44·7	53·2	42·6	43·2	44·7	5·43	29	7·4	39·1	2·90	11·49	17th
February	30·305	40·3	38·4	85	46·4	36·7	41·6	58·7	38·0	40·0	44·1	0·38	6	25·8	40·1	2·50	32·67	
March	29·976	44·6	42·4	84	50·3	38·1	44·2	65·9	40·8	43·1	44·6	2·79	23	63·7	42·3	2·63	78·24	
April	30·158	46·7	43·2	76	55·5	38·6	47·1	83·2	37·6	45·7	46·7	1·43	11	160·3	46·8	2·08	124·31	
May	29·947	53·5	48·8	72	61·5	45·6	53·6	102·2	42·8	54·3	51·3	2·52	18	184·8	52·6	2·46	152·98	
June	30·221	58·5	52·8	68	68·5	51·5	60·0	110·8	49·2	61·4	57·2	0·35	4	210·9	58·4	2·50	158·98	
July	30·058	64·8	59·1	70	74·9	57·4	66·2	115·2	54·2	67·7	63·3	1·25	11	207·4	60·8	3·06	148·80	
August	29·924	59·6	55·7	77	66·2	54·7	60·5	105·1	50·7	62·9	63·2	4·79	17	121·7	59·9	3·61	124·16	
September	30·125	57·1	53·5	78	65·7	52·2	59·0	99·3	48·4	58·7	60·4	0·76	6	134·4	56·4	2·63	104·71	6th, 12th, 25th 13th
October	30·169	55·3	52·5	83	62·5	50·3	56·4	84·1	46·3	55·4	58·2	2·05	11	76·0	49·8	3·44	57·21	
November	30·079	41·4	39·2	82	47·1	38·3	42·7	56·5	36·0	42·6	50·8	2·13	14	31·3	43·6	2·75	18·43	
December	30·012	44·0	42·5	88	48·8	40·0	44·4	52·6	39·2	42·3	46·4	4·71	24	8·4	40·4	3·70	6·73	
YEAR	30·072	50·9	47·7	79	58·1	45·3	51·7	82·2	43·8	51·4	52·7	28·59	174	1232·1	49·2	34·26	1018·75	

TABLE 1.

Annual Death-rates—Male and Female.

	Male	Female
1911	18·73	15·64
1912	17·68	14·79
1913	17·31	14·35
1914	18·36	15·28
1915	17·62	15·09
1916	15·53	13·68
1917	14·57	12·29
1918	16·34	15·33
1919	14·83	13·13
1920	14·33	11·75
Average 10 years ..	16·53	14·13
1921	15·31	12·00

Proportion of Deaths occurring in the Home, and in Public Institutions.

The figures are as follows :—

TABLE 2.

Percentage of all deaths occurring in public institutions since 1913 :—

Year	1913	1914	1915	1916	1917	1918	1919	1920	1921
Percentage ..	30·8	32·3	31·8	33·2	34·0	30·6	30·6	33·0	36·4

When the figures are given separately for the three main divisions of the City it will be seen that they follow the order of impoverishment, although the rise in 1921 affects chiefly North and South Manchester, corresponding to increased general impoverishment, as shown by the figures for outdoor relief.

The facts are exhibited more fully in

TABLE 3.

Percentage dying in public institutions in the three main divisions of the City :—

Year	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Manchester Township ..	40·6	41·7	42·0	40·7	44·8	46·6	39·8	41·5	44·6	44·8
North Manchester	21·2	23·6	25·2	24·0	26·2	27·1	24·2	25·2	25·9	31·9
South Manchester	28·8	29·3	32·0	31·4	31·5	32·1	29·3	29·7	32·1	35·5

The extent to which Poor Law and Voluntary Hospitals are used, is, to some extent, represented in

TABLE 4.

1921.—DEATH-RATES* IN THE HOMES OF THE PEOPLE, IN WORKHOUSES, AND IN HOSPITALS FOR THE VARIOUS DIVISIONS OF THE CITY.

STATISTICAL DIVISIONS	Estimated Populations to middle of 1921	Death-rate per 1000 of persons dying in their own homes	Death-rate per 1000 of persons dying in Workhouses	Death-rate per 1000 of persons dying in Hospitals	Total death-rate per 1000	Mean death-rate 1911-1920
City of Manchester. ...	744·000	8·63	2·80	2·14	13·57	15·26
I. Manchester Township..	110,205	9·96	5·56	2·50	18·02	23·44
II. North Manchester	205,028	8·34	1·75	2·15	12·24	13·06
III. South Manchester	428,767	8·42	2·59	2·04	13·05	14·30

* In this table, *every death* occurring in a Public Institution has been referred to the District from which the patient originally came.

The chief causes of death during the year are shown below, compared with the corresponding figures for 1916, 1917, 1918, 1919, and 1920 :—

TABLE 5.

	1916	1917	1918	1919	1920	1921
Tuberculosis of the Lungs	1238	1196	1103	951	868	967
Tuberculosis of Organs other than the Lungs	348	359	287	237	220	252
Diseases of the Heart	1025	947	920	1050	1076	1052
Cerebral Hæmorrhage, Apoplexy, Hemiplegia.....	553	604	503	483	462	422
Pneumonia	944	929	1421	977	919	924
Bronchitis	1207	1097	1053	1277	1193	1067
Digestive Organs	454	396	360	397	373	382
Atrophy, Debility (chiefly in infants)	164	155	153	144	245	140
Old Age	429	439	413	464	408	405
Premature Birth.....	317	262	280	324	378	333
Nephritis and Bright's Disease	335	307	275	275	283	260
Convulsions.....	74	74	61	56	61	82
Inflammation of the Brain	74	76	77	65	65	59
Diarrhœa and Dysentery	313	279	147	172	250	387
Measles	179	277	166	104	210	5
Scarlet Fever	35	15	21	26	46	59
Whooping Cough	300	49	330	40	84	169
Diphtheria	67	63	58	41	67	90
Influenza.....	133	98	2096	1127	229	207
Malignant Disease.....	794	770	806	875	936	939

We note, first, the steady descent of deaths from tuberculosis of the lungs from 1916 to 1920, notwithstanding the Great War, which undoubtedly had a tendency to increase mortality from tuberculosis of the lung. This it did in two ways, by the stress placed on unfit persons joining the army, and by the inducements offered to tuberculous persons to offer their services in civil occupations.

It is reasonable to believe that the course of mortality from tuberculosis of the lung was in this way diverted, and that the descent would have followed a much more rapid course but for these complications. That appears to be the explanation of the rapid fall in 1919 and 1920. In 1921, however, the number of deaths has increased, due chiefly to diminished nutrition.

From tuberculosis of organs other than the lungs, the deaths, after undergoing a decrease in 1915, again rose in 1916 and 1917, though not to their old level, after which a rapid descent occurred in 1918, 1919, and 1920. A rise occurs in 1921. I have ascribed part of the rise in tuberculosis of the lungs to overcrowding. There exists, I believe, a great deal of overcrowding, notwithstanding that the number of persons per house remains practically the same as in 1911. The persons who are able to avoid overcrowding are the newly married couples.

Diseases of the heart show a diminution over the number for 1920. This is, probably, due to the warm season. It is to be expected that an increase in the number of deaths should be manifest in recent years, as the whole population has become either older or younger, owing partly to the losses in war, partly to the incidence of fatal pneumonia in 1918 and 1919. Heart disease is a disease specially of the old, like bronchitis.

Cerebral Hæmorrhage, etc., has diminished in the last three years, possibly as the result of diminished consumption of alcohol, and also owing to the removal of strain due to the war.

Bronchitis might have been expected to decrease in 1921, the season being favourable to lung diseases, and the number of deaths is, in fact, not exceptionally high. Probably the advent of Influenza in the last six months prevented the number of deaths from being exceptionally low.

Deaths from Diseases of the Digestive System are somewhat raised, possibly owing to the warm summer. From *Diarrhœa* the number of deaths is greater than in other recent years. From *Measles* the number of deaths is phenomenally small. *Scarlet Fever and Diphtheria*, on the other hand, both show an increase in mortality. That from *Whooping Cough* is high. From *Nephritis and Bright's Disease* mortality is somewhat reduced, due, perhaps, to lessened consumption of alcohol. From *Convulsions* the number of deaths has somewhat increased, probably in association with the increases under Enteritis and Whooping Cough. From *Influenza* the deaths are fewer than in the years preceding 1918, but higher than in 1918-1920. From *Cancer* the upward progress of mortality shows a slight advance on 1920.

From *Pneumonia* there is a marked fall in the years 1920 and 1921.

Here we have a mixture of diseases which affect differently different periods of life. Broncho-pneumonia in general concerns more younger ages, and is largely of septic origin. Lobar pneumonia is more concerned with the middle periods of life. If, therefore, we divide the deaths into groups of ages, we shall have some assistance in arriving at an understanding of the position.

Deaths from "Pneumonia" at ages

YEARS	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL.
1914	675	64	41	46	114	102	104	98	45	1289
1915	589	51	17	55	63	107	101	66	40	1089
1920 .. .	394	40	34	59	98	107	95	62	30	919
1921	403	42	34	66	87	96	85	83	28	924

We thus see that the improvement in the years 1920 and 1921 over the other years chosen is, as regards 1914 mainly, as regards 1915 entirely, in the first 5 years of life, and does not indicate any real advance as regards lobar pneumonia.

Attention is called to the great gains under Tuberculosis and Pneumonia in 1920 and 1921 when compared with the previous ten years. The gains under Alcoholism, Diseases of the Digestive System, and Urinary Diseases may, perhaps, be read together. The death-rate from Cancer continues to ascend. The ascent is partly due to the changed age constitution of the population.

INFANTILE MORTALITY.

The figures relating to infantile mortality, divided into those concerning the first and second trimesters and the last six months of the first year, are shown in table 7.

TABLE 7.—INFANTILE MORTALITY.

Deaths per 1000 births at the ages 0-2 months, 3-5 months, and 6-11 months, in successive years.

YEARS	Months of Age			
	0-2	3-5	6-11	Under 1 year
1891-95 (mean)	82.79	40.99	62.97	186.75
1896-1900 (mean)	83.44	42.43	66.28	192.16
1901-1905 (mean)	81.02	37.52	54.24	172.78
1906-1910 (mean)	73.89	29.12	44.27	147.28
1911	79.50	31.81	44.80	156.11
1912	65.31	19.70	37.26	122.30
1913	68.76	24.42	35.52	128.70
1914	68.19	23.16	37.28	128.63
1915	64.38	22.83	41.43	128.64
1916	61.55	18.50	31.22	111.24
1917	60.20	18.77	32.32	111.29
1918	52.59	20.37	33.77	106.73
1919	58.88	13.86	25.05	97.76
1920	59.06	17.09	20.90	97.08
1921	54.54	18.81	23.64	96.98

The distribution of the principal causes of death over different periods of the first year, and in each subsequent year up to the fifth, is shown in table D, page 22. The improvement appearing in 1921 is chiefly in the first three months and in the last six months., although the year 1920 has the lowest mortality in the last period. The intervening period does not show improvement over recent years. For the whole year an improvement occurs on previous years, especially when we take into account that the birth-rate in 1920 was higher than that in 1921. Summer diarrhoea is responsible for the increase in the period three to five months, along with a relative increase in fatality from lung disease, as will be seen on consulting table D for three successive years, as given in the Annual Reports for 1919 to 1921.

Table 8 allows a comparison with former years in respect of the infantile mortality rates from different causes for the whole of the first year of life.

TABLE 8.

CITY OF MANCHESTER.

CAUSES OF DEATH	DEATHS UNDER ONE YEAR PER 1,000 BIRTHS					
	1916	1917	1918	1919	1920	1921
All causes	111.24	111.29	106.73	97.76	97.08	96.98
Smallpox .. .. .	..	..	..	..	..	..
Chickenpox	0.13	..	..	..	..	0.11
Measles	2.70	5.22	3.10	1.87	2.77	0.11
Scarlet Fever	0.13	0.08	..	..	0.16	0.11
Whooping Cough	6.93	1.32	6.89	0.93	1.99	5.23
Diphtheria and Membranous Croup	0.26	0.47	0.31	0.29	0.10	0.17
Erysipelas	0.06	0.08	0.08	0.07	0.10	0.11
Tuberculous Meningitis ..	0.64	1.95	0.77	0.93	0.42	0.62
Abdominal Tuberculosis ..	0.91	0.86	0.93	0.43	0.37	0.17
Other Tuberculous Diseases..	1.03	1.33	0.31	0.50	0.57	0.57
Meningitis (<i>not Tuberculous</i>)..	0.96	1.17	1.39	1.01	1.31	0.68
Convulsions	3.66	4.44	3.56	3.59	2.82	3.81
Laryngitis	0.06	..	0.08	0.07	0.10	0.11
Bronchitis	11.31	9.20	9.91	8.40	11.08	9.15
Pneumonia (all forms) ..	12.65	10.90	16.11	11.77	11.81	10.57
Diarrhoea and Enteritis.. ..	13.93	15.51	7.43	9.62	11.13	17.95
Gastritis	1.35	1.64	1.63	1.22	1.25	1.14
Syphilis	3.92	3.90	2.17	3.02	1.99	1.82
Rickets	0.44	0.55	0.08	0.29	0.37	0.23
Suffocation	3.34	3.81	1.70	1.79	1.41	1.19
Injury at birth	2.25	2.18	1.16	2.37	1.36	1.48
Atelectasis	1.79	1.25	1.32	1.94	2.61	3.70
Congenital Malformation ..	3.79	5.46	3.41	4.45	4.28	4.04
Premature Birth	20.36	20.41	21.68	23.26	19.70	18.86
Atrophy, Debility, and Marasmus	9.82	11.61	11.23	9.91	12.17	7.61
Overlying and found dead in bed	3.9	4.4	2.0	2.7	1.98	1.64
Other causes	8.81	8.02	11.46	10.05	7.21	7.44

Marked improvement is visible under the heads of measles, atrophy, debility, and marasmus, with a number of minor causes. Marked falling off occurs under the heads of whooping cough and diarrhœa. Rickets shows a comparatively low death-rate. Very significant is the improvement under the heads "suffocation" and "overlying," which may with confidence be ascribed to diminished intoxication. How far the diminished mortalities from prematurity and atrophy own the same cause it is difficult to say. The figures for syphilis are not reliable; otherwise they might be taken to show improvement.

The tables usually appended to the above statement in former years are herewith given. It is, however, impossible to give tables showing the death-rates at groups of ages, as the necessary figures have not been received as yet from the Registrar-General.

Tables E and F permit a review of the death-rates from specified causes over a long series of years. Table E gives death-rates for the more common notifiable diseases, with the exception of erysipelas, which became notifiable in 1900, and includes statistics for violent deaths, percentages dying in public institutions, and infantile mortality. It dates back to 1871. Attention is directed to the striking reductions of the death-rates from enteric, typhus, and simple continued fevers, from scarlet fever, from smallpox, and in a lesser degree from diarrhœa, measles, and whooping cough. It will be seen that diphtheria presents no such picture of continuous improvement. The general death-rate for the corresponding area has diminished by over 50 per cent. since 1871-75, and infantile mortality has also diminished by 50 per cent. Deaths from violence have declined or been reduced by 50 per cent. in the same period. Table F deals with larger groups of diseases, but dates back only to 1881-85. It will be seen that the death-rates from tuberculous diseases have declined by nearly 50 per cent., and those from respiratory diseases, other than phthisis, have also diminished by an amount which is short of 50 per cent. From diseases of the digestive system the diminution is over 50 per cent.

No such improvement is manifest in urinary diseases, diseases of the generative system, nor, since the Midwives' Act came into force, in respect of puerperal fever, or other accidents of childbirth. The death-rate from cancer has more than doubled, although this increase is largely due to change in the age constitution of the population.

Table G shows the area of the City, the number of persons per acre, and the birth-rates and death-rates for each of the Sanitary Districts.

Table H gives facts relating to births. The proportion of illegitimate to total births for the whole City is 5·1, which is an approximation to the normal. The

proportion of illegitimate births is highest in Chorlton-upon-Medlock, but is also high throughout the Manchester Township and in the districts of Moss Side and West Gorton. The mortality per 1,000 births over the whole City is nearly twice as high for illegitimate as for legitimate infants. The proportion varies much in different districts. Where the disproportion is and continues to be excessive, as may be gathered from successive reports, special enquiries on the part of the Maternity and Child Welfare staff appear to be indicated.

Table J compares infantile mortalities in the three main divisions of the City. Certain groups of diseases have mortalities which react constantly and decidedly to social conditions. These are measles, diarrhoea, tuberculosis, lung diseases, and prematurity. The difference in mortalities between the Manchester township and the other two main divisions of the City is as striking as usual.

Table K shows the death-rates at all ages from selected causes for the whole City and each of its main divisions.

The highest death-rates are exhibited in the Manchester Township for 1921 from the following causes:—Whooping cough, diphtheria, diarrhoea, tuberculosis, cancer, prematurity, bronchitis, and pneumonia. Of these, whooping cough is but slightly, cancer still less, and diphtheria very little dependent on social conditions.

Diphtheria, which formerly spared the Manchester Township, has now again taken possession of it. The chief incidence of whooping cough varies greatly. In the case of cancer it is probably an accident that its highest incidence is decidedly on the Manchester Township.

The highest death-rate from enteric fever in 1921 is in North Manchester, in 1920 in South Manchester, and in 1919 in South Manchester and North Manchester. Possibly the consumption of shell fish has to do with this distribution, or of other succulent dainties.

Erysipelas affects all the divisions impartially, and this appears to be true also for puerperal fever and septicæmia. From alcoholism the recorded death-rates are low, and no division appears to be specially affected. Rheumatic fever is in the same case with septicæmia, erysipelas, and puerperal fever. Nervous diseases affect the Manchester Township in a slight degree more than the other two divisions, and heart disease still more slightly. It is probable that this is due to diminished power to procure alcohol.

From table L it would appear that the proportion of deaths uncertified either by a practitioner or by the coroner is unduly high in some districts, notably in Cheetham, Harpurhey, Moston, Central, West Gorton, and Levenshulme.

Herewith are given the tables of poor law relief, already mentioned :—

AMOUNT OF POOR LAW RELIEF.

This is shown in the table on page 14, compiled from a monthly statement furnished to the Hospitals Sub-Committee. Further particulars are given in the Statement below, obtained from the Clerk to the Manchester Guardians.

MANCHESTER UNION.

Return relating to Sick Persons and Persons Suffering from Mental Infirmity Maintained by, or Chargeable to, the Guardians of the Poor of the Manchester Union on the 1st January, 1922.

Institution	Class of Case Maintained	Sick	Suffering from Mental Infirmity
1. Poor Law Establishments.			
<i>(a) Belonging to Manchester Union :—</i>			
Crumpsall Infirmary (1,700)	General Hospital and Lunacy	891	513
Withington Hospital (900)	General Hospital ..	799	—
Rose Hill Ophthalmia School (86)	Ophthalmic children ..	78	—
Booth Hall Infirmary (400)	General Hospital for Children	386	—
Langho Colony (171) ..	Epileptic persons ..	—	443
<i>(b) Belonging to other Unions :—</i>			
Tarvin	Feeble-minded persons.	—	21
Lunedale	"	—	11
West Derby	Mentally deficient" persons	—	3
Metropolitan Asylums Board (Whiteoak School)	Ophthalmic children ..	4	—
2. Non-Poor Law Establishments.			
<i>(a) County Asylums :—</i>			
Lancaster	Lunatics	—	343
Prestwich	"	—	777
Winwick	"	—	217
Whittingham	"	—	131
Rainhill	"	—	14
Cumberland and Westmoreland	"	—	1
Hanwell	"	—	1
Colney Hatch	"	—	1
<i>(b) Hospitals, Homes, and Schools :—</i>			
St. John Baptist's Ophthalmia School, Chigwell	Ophthalmic boys.. ..	4	—
Ormerod Home, St. Annes-on-Sea	Delicate and Phthisical children	4	—
Pen y-coed, Abergele.. ..	Phthisical children ..	11	—
Carried forward ..		2,177	2,476

Institution	Class of Case Maintained	Sick	Suffering from Mental Infirmity
	Brought forward ..	2,177	2,476
<i>2. Non-Poor Law Establishments (continued)—</i>			
<i>(b) Hospitals, Homes, and Schools— (continued)</i>			
Woodhouse Memorial Home	Convalescent	1	—
St. Anne's Ophthalmia School, London	Ophthalmic persons ..	11	—
Monsall Fever Hospital, Newton Heath	Infectious	8	—
Holy Cross Sanatorium, Haslemere	Consumptive adults ..	1	—
Min-y-don Home, Conway	Phthisical children ..	102	—
Royal Alexandra Hospital, Rhyl	Convalescent	8	—
Metropolitan Convalescent Institution	Convalescent	1	—
St. Agnes Training School, Leyton	Feeble-minded women .	—	2
Thurlby House (now Hill-side House School), Buntingford	Feeble-minded children	—	3
Sandlebridge School, Alderley Edge	Mentally defective adults	—	9
All Souls' Special School, Hillingdon, Essex	Feeble-minded girls {	—	8
Cumnor Rise Home, Botley, Oxford		—	4
Stoke Park Colony, Bristol	Feeble-minded persons {	—	36
Whittington Hall, Chesterfield		—	6
Pontville Home, Ormskirk	Feeble-minded boys ..	—	3
Durran Hill House, Carlisle	Mentally defective women	—	8
St. Joseph's Home, Sudbury	Feeble-minded young women	—	2
Allerton Priory, Woolton, Lancs.	Feeble-minded children	—	2
Royal Albert Institution, Lancaster	Feeble-minded adults..	—	11
Bigod's Hall, Dunmow, Essex	Feeble minded boys ..	—	1
BrentryCertified,nearBristol	Feeble-minded adults..	—	1
	Total	2,309	2,572

N.B.—The figures shown in brackets against the Institutions under heading 1 (a) represent the accommodation for the class referred to.

THE NUMBER OF PERSONS WHO WERE IN RECEIPT OF RELIEF FROM THE MANCHESTER
BOARD OF GUARDIANS DURING THE LAST WEEK IN EACH MONTH OF THE TWO
YEARS 1920 AND 1921.

	1920			1921		
	Indoor	Out-Door	Sick Remaining	Indoor	Out-Door	Sick Remaining
January ..	5,650	3,766	1,774	6,347	5,502	2,165
February ..	5,638	3,606	1,813	6,357	5,922	2,137
March ..	5,655	3,583	1,883	6,367	6,473	2,155
April	5,663	3,643	1,834	6,420	9,750	2,216
May	5,666	3,607	1,884	6,493	13,552	2,238
June	5,560	3,517	1,801	6,470	17,576	2,225
July	5,509	3,444	1,952	6,402	18,735	2,210
August ..	5,543	3,585	1,914	6,500	18,506	2,119
September .	5,640	3,851	1,875	6,646	26,127	2,134
October ..	5,771	4,064	1,992	6,743	31,616	2,187
November ..	5,942	4,532	2,036	6,744	27,091	2,157
December ..	6,177	4,750	2,119	6,871	22,280	2,196

TABLES.

TABLE A.—MANCHESTER, 1921.

CAUSES OF DEATH AT DIFFERENT LIFE PERIODS IN THE 52 WEEKS OF THE YEAR.
PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	AGES AT DEATH														
	All Ages	UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and onwards	
		0 to 1	1 to 5												
All Causes	10093	1707	728	224	148	265	254	558	864	1194	1493	1570	917	171	
A.—GENERAL DISEASES.....	4021	1010	322	113	75	185	149	286	397	512	504	344	111	1	
B.—LOCAL DISEASES.....	5154	519	364	84	70	69	90	242	426	630	908	1076	586	9	
C.—OTHER SPECIFIED DIS...	7	2	2	...	1	...	...	1	...	1	...	...	...	...
D.—ILL-DEFINED DISEASES...	558	136	7	...	...	...	...	1	...	3	36	108	205	6
E.—VIOLENT DEATHS	353	40	33	27	2	11	15	28	41	48	45	42	15	...	
A.—General Diseases.															
Smallpox.. { Vaccinated .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Not Vaccinated ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ No Statement.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Measles	5	2	2	1	...	...	...	...	...	...	...	...	...	...
Epidemic Rose Rash	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever..	59	2	25	11	7	6	2	2	2	2	...	...	...	...
Typhus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	207	13	5	7	4	9	10	25	21	35	32	24	19	...	
Whooping Cough	169	92	74	3	...	...	...	...	...	...	...	...	...	...
Mumps .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria and Memb: Croup	90	3	41	36	5	2	1	1	...	1	...	...	...	...
Poliomyelitis	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever	3	1	...	1	...	1	...	...	...	...	...	...	...	...
Simple Cont: Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	12	...	...	...	...	3	2	5	1	1	...	...	...	...
Asiatic Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Diarrhoea	47	36	11	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea	337	280	48	...	...	...	...	...	...	1	2	5	...	...
Dysentery	3	...	...	...	...	...	...	1	1	...	...	1	...	...
Malarial Fever.....	3	...	...	...	...	...	...	1	2	...	...	...	...	...
Trench Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Actinomycosis	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Hydrophobia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anthrax .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tetanus	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	39	32	...	...	...	1	...	1	1	2	1	1	...	...
Gonorrhoea, Strict: Urethra...	12	...	...	...	...	...	...	...	2	4	1	4	...	...
Puerperal.. { Septicæmia	12	...	...	...	...	1	...	7	4	...	...	...	...	...
{ Pyæmia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Phlegmasia Dol: ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Fever.....	16	...	...	...	...	...	4	8	4	...	...	...	...	...
Infective Endocarditis	29	...	...	...	3	2	3	13	7	...	...	1	...	...
Epidemic Pneumonia }	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Pneumonic Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	17	2	...	1	...	...	...	3	3	1	3	2	2	...
Septicæmia (not puerp:).....	10	3	...	...	1	2	...	2	...	...	1	...	1	...
Pyæmia (not puerp:).....	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Phlegmon .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phagedæna .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Septic Diseases.....	3	...	1	1	...	...	1	...	...	...	...	...	...	...
Tubercular Phthisis.....	888	4	14	6	17	100	93	147	213	189	75	29	1	...	
Phthisis	79	...	2	1	1	10	9	13	19	11	8	5	...	...

TABLE A, 1921—continued.

CAUSES OF DEATH	All Ages	AGES AT DEATH													
		UNDER 5 YEARS		5	10	15	20	25	35	45	55	65	75	85	85 and upwards
		0 to 1	1 to 5	to 10	to 15	to 20	to 25	to 35	to 45	to 55	to 65	to 75	to 85		
A.—General Diseases—															
<i>continued</i>															
tubercular Meningitis.....	96	11	28	16	12	10	3	10	6	...	...	...	...	...	...
tubercular Peritonitis.....	45	3	13	4	9	8	5	1	...	2	...	...	...	...	...
typhoid Mesenterica.....	5	...	4	...	1	...	...	...	...	...	...	...	...	...	...
typhus.....	3	...	...	...	...	2	...	1	...	...	...	...	...	...	...
tubercle of other organs ..	54	...	8	3	5	8	7	7	8	4	3	1	...	...	...
General Tuberculosis	49	6	8	10	4	8	...	1	4	6	2	...	...	...	...
Profusa .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Parasitic Diseases.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Starvation .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Starvation .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alcoholism, Delirium Tremens	18	...	...	...	...	...	...	...	5	7	5	1	...	...	...
Opium, Morphia Habit .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Opium Poisoning.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Industrial { Lead.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Phosphorus .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Arsenic, &c. ....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scum: Fever, Acute Rheumatism	46	...	1	7	4	6	3	7	4	1	9	3	1	...	...
Rheumatism of Heart .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chronic Rheumatism	18	...	...	...	...	...	...	...	1	1	7	5	3	1	...
Scum: Arthritis, Rheumatism Gout	29	...	...	...	...	...	...	...	1	2	7	9	8	2	...
Scum	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...
Cancer—Buccal Cavity	68	...	...	...	...	...	...	1	...	12	33	19	3	...	...
Stomach and Liver.....	306	...	...	...	...	...	...	7	17	65	109	76	30	2	...
Peritoncum, Intest., Rectum ..	154	...	...	...	...	...	...	7	10	27	52	48	10	...	...
Female Genital Organs	120	...	...	...	...	...	...	2	16	41	33	22	0	...	...
Breast.....	87	...	...	...	...	...	...	1	20	19	26	14	7	...	...
Skin	12	...	...	...	...	...	...	...	3	1	5	3	...	...	...
Others or unspecified.....	192	1	...	1	...	3	1	9	13	41	61	45	15	2	...
Scabs	17	4	12	...	...	...	1	...	...	...	...	...	...	...	...
Purpura	2	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Leukophilia, Hæm: Diathesis ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Leukemia, Leucocythæmia	50	1	...	1	1	1	2	2	6	14	13	8	1	...	...
Diabetes Mellitus.....	63	...	1	...	...	1	2	...	2	20	14	18	4	1	...
Other Constitutional Diseases ..	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Immature Birth	333	332	1	...	...	...	...	...	...	...	...	...	...	...	...
Genital Defects	91	71	16	2	...	1	...	1	...	...	...	...	...	...	...
Uterine at Birth	26	26	...	...	...	...	...	...	...	...	...	...	...	...	...
Lactation.....	65	65	...	...	...	...	...	...	...	...	...	...	...	...	...
Flow of Breast Milk	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Nothing	17	12	5	...	...	...	...	...	...	...	...	...	...	...	...
Deaths of Early Infancy.....	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...
B.—Local Diseases.															
NERVOUS SYSTEM.															
Inflammation of Brain	59	12	20	6	6	1	2	...	4	3	4	1	...	...	...
Swelling of Brain	8	...	...	...	...	...	...	...	...	1	2	2	2	1	...
General Paralysis of Insane.....	33	...	...	...	...	...	1	5	15	8	3	1	...	...	...
Convulsions (not puerperal).....	49	...	...	...	...	1	1	6	8	14	17	2	...	...	...
Epilepsy.....	2	...	...	2	...	...	...	...	...	...	...	...	...	...	...
Convulsions.....	47	...	...	1	2	4	2	11	7	7	7	4	2	...	...
Angismus Stridulus.....	82	67	14	...	...	1	...	...	...	...	...	...	...	...	...
Motor Ataxy.....	2	...	1	1	...	...	...	...	...	...	...	...	...	...	...
Softening of Spinal Cord.....	12	...	...	...	...	...	...	1	3	5	2	1	...	...	...
Myelitis	37	...	...	1	...	1	1	2	4	7	7	12	2	...	...
Spinal Tumour	9	...	...	...	...	...	...	...	...	1	4	3	1	...	...
Encephalitis Lethargica	19	...	...	1	...	4	...	3	3	7	1	...	...	...	...
Polio-myelitis	17	...	2	3	...	1	...	2	4	3	2	...	...	...	...
Nervous System (other Dis:)...	25	...	2	...	1	...	...	...	2	1	11	7	1	...	...
DISEASES OF SPECIAL SENSE ORGANS.															
Otitis, Mastoid Disease	21	1	4	1	3	3	2	1	4	...	...	2	...	...	...
Nasal Discharge, Nose Disease ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Strabismus, Eye Disease	4	1	...	...	1	...	...	1	...	...	...	1	...	...	...

TABLE A, 1921--continued.

CAUSES OF DEATH	AGES AT DEATH														
	All Ages	UNDER 5 YEARS		5	10	15	20	25	35	45	55	65	75	85 and upwards	
		0 to 1	1 to 5	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85			
3. DISEASES OF HEART.															
Valvular Dis: Endocarditis	571	...	1	6	11	9	22	45	68	103	114	117	67		
Pericarditis	10	...	...	...	1	2	...	...	5	...	1	1	...	...
Hypertrophy of Heart.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Angina Pectoris	21	...	...	...	...	...	...	...	...	4	7	8	2	...
Dilatation of Heart	80	...	...	...	...	...	...	5	2	14	15	27	16	...
Fatty Degcn: of Heart	29	...	...	...	...	...	...	1	3	3	...	11	2	...
Syncope, Heart Disease.....	341	...	...	1	4	1	5	10	24	47	75	106	62	...
4. DIS: OF BLOOD VESSELS.															
Cerebral Hæmorrhage.....	321	4	...	...	...	1	1	2	15	40	78	114	57	...
Apoplexy, Hemiplegia.....	101	...	...	1	...	...	1	...	2	8	27	37	22	...
Aneurism	29	...	...	...	...	...	...	...	5	11	9	4	...	...
Senile Gangrene	16	...	...	...	...	...	...	...	...	...	2	9	5	...
Embolism, Thrombosis	43	...	...	...	...	2	1	2	4	12	14	6	...	...
Phlebitis.....	6	...	...	...	...	...	1	...	...	3	1	1	...	...
Varicose Veins	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Blood Vessels (Other Diseases)	196	...	...	...	...	...	...	3	18	43	74	50	...	...
5. DIS: OF RESPIRATORY SYS:															
Laryngitis	5	2	1	...	...	...	...	...	...	2	...	...	...	...
Membr: Laryng: (Not Diphth:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Larynx (Other Dis:)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	1,067	161	67	8	3	3	3	11	52	84	185	268	187	...	
Pneumonia { Lobar-Croupous.	326	10	22	9	5	13	9	47	56	58	50	39	7	...	
{ Broncho-Lobular.	490	167	187	18	6	1	4	10	16	19	19	30	13	...	
"Pneumonia".....	108	9	8	3	1	5	2	9	15	19	16	14	5	...	
Emphysema, Asthma	22	...	...	...	...	...	...	1	4	2	4	6	5	...
Pleurisy	30	1	1	...	1	...	...	4	3	4	9	5	2	...
Fibroid Disease of Lung.....	5	...	...	...	...	...	...	1	1	1	1	...	1	...
Respiratory Dis: (Other)	21	2	1	...	...	...	...	2	1	4	1	2	7	...
6. DIS: OF DIGESTIVE SYS:															
Tonsillitis, Quinsy	7	...	1	4	...	...	...	...	1	...	1	...	...	...
Mouth, Pharynx	12	4	4	...	...	...	...	1	2	...	...	1	...	...
Gastric Ulcer.....	37	...	...	...	...	...	2	6	9	9	8	2	1	...
Gastric Catarrh.....	5	...	...	...	...	...	...	...	...	1	3	1	...	...
Stomach (Other Dis:)	52	25	6	1	...	...	...	...	1	4	5	4	6	...
Enteritis.....	14	...	5	...	...	1	...	...	2	2	1	2	1	...
Gastro-Enteritis.....	10	...	1	2	...	...	1	...	1	2	...	2	1	...
Appendicitis, Perityph:	47	...	1	5	7	5	4	3	7	6	6	3	...	...
Hernia.....	41	5	...	...	...	...	...	...	...	5	14	13	3	...
Intestinal Obstruct:.....	32	7	...	2	1	1	3	1	2	1	3	5	4	...	
Other Diseases of Intestines ..	25	9	4	1	2	...	...	...	3	1	3	2	1	...
Peritonitis	15	...	2	1	1	1	2	3	3	...	1	1	...	...
Cirrhosis of Liver.....	39	...	...	...	...	...	...	...	4	16	8	7	4	...
Liver	20	5	...	1	1	...	1	...	...	2	4	5	1	...
Biliary Calculi	11	...	...	...	...	...	...	...	...	1	3	5	2	...
Digestive System (Other Dis:)	14	3	...	...	...	1	...	1	1	2	4	1	...	...
7. DIS: OF LYMPHATIC AND DUCTLESS GLANDS.															
Spleen, Disease of.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lymphat: Syst: (Other Dis:)	18	2	1	...	...	1	1	1	4	3	4	1	...	...
Thyroid Body (Other Dis:)	3	...	...	...	...	...	...	...	...	1	1	1	...	...
Addison's Dis: (Dis: of)	10	1	...	...	...	...	...	3	...	2	3	...	1	...
8. DISEASES OF URINARY SYSTEM.															
Nephritis Ac: Uremia	82	...	2	4	3	1	2	5	9	17	16	21	2	...	
Ch: Bright's Dis: Albumin: ...	178	...	1	...	2	2	3	9	26	36	47	39	11	...	
Calculus	9	...	...	...	...	...	1	2	...	2	2	1	1	...
Bladder and Prostate Dis: ...	61	...	...	...	...	...	...	2	...	4	12	23	17	...
Urinary Syst: (Other Dis:)	21	1	1	...	...	...	1	3	4	2	6	2	...	...

TABLE C.—MANCHESTER, 1921.
CAUSES OF DEATHS AT DIFFERENT LIFE PERIODS—FEMALES.

Classes	CAUSES OF DEATH	AGES AT DEATH—IN YEARS														Total
		All	UNDER 5 YEARS		5	10	15	20	25	35	45	55	65	75	85 and upwards	
		Ages	0 to 1	1 to 5	to 10	to 15	to 20	to 25	to 35	to 45	to 55	to 65	to 75	to 85		
	All Causes	4710	704	335	101	81	147	146	273	377	461	669	755	542	119	
A	Smallpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	4	1	2	1	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	31	...	13	5	5	5	...	1	1	1	...	...	...	...
	Typhus Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	92	43	47	2	...	...	...	...	...	...	...	...	...	...
	Diphtheria, Membr: Croup	44	3	20	16	2	...	1	1	...	1	...	...	...	...
	Ill-defined Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	6	...	...	...	...	2	...	3	...	1	...	...	...	...
	Influenza	102	8	2	2	4	6	7	13	5	12	12	12	17	2	
	Epidemic Diarrhoea	21	14	7	...	...	...	...	...	...	...	...	...	...	...
	Diarrhoea, Dysentery, Simple Cholera	129	105	20	...	...	...	...	...	...	...	1	2	...	1	
	Venereal Affections	12	9	...	...	...	...	...	1	1	1	...	...	...	...
	Erysipelas	7	...	...	...	...	...	2	1	...	1	1	2	...	...
	Pyæmia, Septicæmia (others) ..	19	2	...	1	3	1	1	6	4	...	...	...	1	...	
	Puerperal Fever	28	...	...	...	...	1	4	15	8	...	...	...	...	...
	Other Zymotics .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tubercular Periton: Tabes Mes.	26	1	7	1	3	6	5	1	...	2	...	...	...	...
	Tubercular Meningitis	45	4	14	6	6	6	3	5	1	...	...	...	...	...
	Phthisis	396	2	5	5	12	66	63	75	90	46	16	16	...	...
	Tuberculous Diseases (other) ...	44	2	5	5	6	10	2	4	5	2	3	...	...	...
B and C	Parasitic Diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Alcoholism	8	...	...	...	...	...	...	...	2	3	2	1	...	...
	Rheumatic Fever	28	...	...	4	3	6	2	2	4	...	5	2	...	...
	Cancer	487	1	...	...	...	1	...	13	58	112	146	106	46	4	
	Premature Birth	141	140	1	...	...	...	...	...	...	...	...	...	...	...
	Congenital defects	61	51	10	...	...	...	...	...	...	...	...	...	...	...
	Epilepsy	24	...	...	...	...	1	1	7	3	3	4	3	2	...	
	Convulsions	39	32	7	...	...	...	...	...	...	...	...	...	...	...
	Nervous System (other)	117	8	11	6	4	6	3	7	13	10	23	13	3	1	
	Cerebral Hæmorrhage, Apoplexy, and Hemiplegia	215	...	...	1	...	...	1	1	8	21	50	77	47	9	
	Heart and Blood Vessel Diseases ..	682	...	...	2	7	6	18	38	58	90	143	182	121	17	
	Pleurisy	6	1	...	...	...	...	...	1	2	...	2	...	...	...
	Croup .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Bronchitis	515	64	32	4	2	2	2	6	14	33	87	137	102	23	
	Pneumonia	363	80	91	17	6	7	7	21	29	29	36	30	9	1	
	Respiratory Diseases (other)	25	2	1	...	...	...	...	3	2	2	4	3	8	...	
	Cirrhosis	9	...	...	...	...	...	...	...	1	3	3	1	1	...	
	Digestive System (other)	162	27	10	8	6	4	7	8	11	13	27	28	9	4	
	Urinary System (other)	135	...	2	1	3	2	4	8	16	24	41	27	6	1	
	Generative Organs and Childbirth ..	59	...	...	...	...	2	9	19	14	7	2	3	3	...	
	Other specified Diseases	189	31	13	2	8	5	3	4	13	25	33	34	13	5	
D	Marasmus and Atrophy	53	51	2	...	...	...	...	...	...	...	...	...	...	...
	Old Age	258	...	...	...	...	...	...	...	...	...	14	60	137	47	
	Other Ill-defined Causes	7	1	1	...	...	...	...	...	...	1	1	2	1	...	
E	Violence	96	16	12	12	1	1	3	1	8	7	10	14	7	4	
	Homicide	8	5	...	...	...	1	...	1	1	...	...	...	...	...
	Suicide	17	...	...	...	...	...	...	6	4	3	3	1	...	...

TABLE D.
CITY OF MANCHESTER, 1921.—CAUSES OF DEATH IN INFANCY AND
CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3-6 months	6-12 months		1-	2-	3-	4-	
All Causes	960	331	416	1,707	478	109	72	69	2,435
Chicken Pox.....	...	...	2	2	...	...	...	...	2
Measles	2	...	...	2	1	1	...	...	4
Scarlatina .....	...	...	2	2	9	7	3	6	27
Whooping Cough	22	16	54	92	58	9	6	1	166
Diphtheria.....	...	...	3	3	11	6	12	12	44
Erysipelas	1	1	...	2	...	...	...	...	2
Diarrhoeal Diseases	117	119	80	316	52	7	...	...	375
Gastritis.....	13	5	2	20	3	1	...	...	24
Syphilis	19	11	2	32	...	...	...	...	32
Tabes Mesenterica and Tuberc. Peritonitis	1	1	1	3	11	1	...	5	20
Tubercular Meningitis .....	...	4	7	11	14	3	5	6	39
Tuberculosis (other).....	1	2	7	10	18	8	4	2	42
Rickets .....	...	2	2	4	11	1	...	...	16
Premature Birth	330	2	...	332	1	...	...	...	333
Injury at Birth	26	...	...	26	...	...	...	...	26
Atelectasis	65	...	...	65	...	...	...	...	65
Congenital Malformations	54	11	6	71	8	3	2	3	87
Convulsions	42	14	11	67	11	2	...	1	81
Meningitis.....	2	2	8	12	12	8	...	...	32
Nervous Diseases (other)...	...	...	...	...	2	1	1	1	5
Bronchitis	58	34	69	161	50	8	5	4	228
Pneumonia	26	52	108	186	160	27	17	13	403
Other Respiratory Diseases	3	...	2	5	1	...	2	...	8
Atrophy, Marasmus	98	24	12	134	5	1	...	...	140
Found Dead in Bed (over- laid)	14	7	...	21	1	...	...	...	22
Suffocation	6	1	1	8	...	...	...	...	8
Violence (other forms)	5	1	5	11	15	6	4	7	43
Ill-defined Causes.....	1	1	...	2	1	..	...	...	3
Unclassified	54	21	32	107	23	9	11	8	158

TABLE E.—MANCHESTER—ESTIMATED POPULATIONS. ANNUAL RATES OF MARRIAGES, BIRTHS, AND DEATHS (a) FROM ALL CAUSES, (b) FROM SPECIFIED CAUSES, AND (c) INFANTILE MORTALITIES; ALSO THE PERCENTAGES TO TOTAL DEATHS OF INQUEST CASES AND OF DEATHS IN PUBLIC INSTITUTIONS; ALSO QUINQUENNIAL AVERAGES 1871-1920.

Year	Estimated Population (Mean)	Persons Married	Annual Rates per 1,000 persons living										Percentage to Total Deaths		Infantile Mortality	Year		
			Births	Deaths (all causes)	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Enteric Fever	Simple Continued Fever	Pituitary Diseases	Violence			Inquest Cases	Deaths in Public Institutions
1871-1875	477,344	24.6	38.9	28.3	0.26	0.64	1.08	0.08	0.78	0.14	0.43	0.21	1.95	0.64	7.2	13.4	198	.. 1871-1875
1876-1880	509,802	18.6	38.7	26.2	0.24	0.53	1.07	0.13	0.84	0.08	0.29	0.11	1.26	0.89	7.5	14.3	172	.. 1876-1880
1881-1885	542,746	17.9	35.1	23.6	0.04	0.71	0.48	0.10	0.68	0.05	0.20	0.03	0.99	0.72	7.0	15.9	175	.. 1881-1885
1886-1890	575,630	16.6	33.4	24.6	0.02	0.83	0.50	0.32	0.54	0.02	0.30	0.01	1.08	0.78	6.9	17.7	183	.. 1886-1890
1891-1895	517,801	16.9	33.2	23.6	0.03	0.62	0.26	0.27	0.64	0.00	0.24	0.01	1.19	0.77	7.1	19.2	186	.. 1891-1895
1896-1900	539,599	18.2	32.5	22.7	..	0.89	0.20	0.13	0.53	0.00	0.18	0.01	1.69	0.73	7.1	20.2	192	.. 1896-1900
1901-1905	554,355	17.4	30.9	20.1	0.01	0.55	0.19	0.22	0.41	0.00	0.13	0.00	1.15	0.72	7.1	24.4	173	.. 1901-1905
1906-1910	660,049	17.0	28.1	17.7	..	0.54	0.16	0.17	0.37	0.00	0.10	0.00	0.76	0.68	7.4	27.3	147	.. 1906-1910
1911-1915	731,677	17.6	24.8	16.4	..	0.50	0.12	0.14	0.25	..	0.05	..	0.84	0.67	7.9	30.8	133	.. 1911-1915
1916-1920	770,330	16.7	19.2	14.1	..	0.24	0.04	0.08	0.21	..	0.02	0.00	0.30	0.49	6.4	32.3	105	.. 1916-1920
Quinquennial Average																		
1911..	716,734	16.3	25.9	17.1	..	0.47	0.06	0.12	0.20	0.00	0.07	..	1.60	0.67	7.2	28.6	156	.. 1911
1912..	724,168	17.1	25.1	16.2	0.00	0.68	0.07	0.13	0.41	..	0.06	..	0.38	0.65	8.0	30.5	122	.. 1912
1913..	731,556	17.3	25.6	15.8	..	0.35	0.13	0.14	0.19	..	0.06	0.00	0.84	0.69	8.2	30.8	129	.. 1913
1914..	739,136	16.9	25.3	16.8	..	0.40	0.22	0.15	0.38	..	0.05	0.00	0.71	0.72	8.2	32.3	129	.. 1914
1915..	746,793	20.5	22.2	16.3	..	0.60	0.11	0.14	0.09	..	0.05	0.00	0.65	0.61	7.7	31.8	129	.. 1915
1916..	754,531	15.4	20.6	14.6	..	0.24	0.05	0.09	0.40	..	0.03	0.00	0.41	0.59	7.8	33.2	111	.. 1916
1917..	762,349	13.6	16.8	13.4	..	0.36	0.02	0.08	0.06	..	0.01	..	0.37	0.57	7.1	34.0	111	.. 1917
1918..	770,248	14.5	16.8	15.8	..	0.22	0.03	0.08	0.43	..	0.01	0.00	0.19	0.42	5.2	30.6	107	.. 1918
1919..	778,229	18.8	17.6	13.7	..	0.13	0.03	0.05	0.05	..	0.02	0.00	0.22	0.44	5.6	30.6	98	.. 1919
1920..	786,293	21.4	24.3	13.0	..	0.27	0.06	0.09	0.11	..	0.02	0.00	0.33	0.44	6.1	33.0	97	.. 1920
1921 (Census)...	744,000	19.3	23.7	13.6	..	0.01	0.08	0.12	0.23	..	0.02	..	0.52	0.47	5.8	36.4	97	.. 1921

The populations and rates prior to 1891 are those for the Unions of Manchester, Chorlton, and Prestwich, which have been taken to approximately represent "Manchester." The City was extended to include Moss Side and Withington in November, 1904, and to include Gorton and Levenshulme in November, 1909.

TABLE F.

MANCHESTER—ANNUAL RATES OF MORTALITY FROM CERTAIN CAUSES OF DEATH.

YEAR	ANNUAL RATES PER 1,000 PERSONS LIVING										RATES PER 1,000 BIRTHS	
	Cancer	Tuberc. Peritonitis Tubes Mes.	Phthisis	Other Tuberc. Diseases	Diseases of Nervous System	Diseases of Heart and Blood Vessels	Diseases of Respiratory System	Diseases of Digestive System	Diseases of Urinary System	Diseases of Generative System	Puerperal Fever	Childbirth
1881-1885	0.50	0.35	2.42	0.57	3.28	1.37	5.41	1.23	0.48	0.08	3.03	1.99
1886-1890	0.61	0.36	2.24	0.59	3.09	1.73	5.76	1.23	0.61	0.08	3.22	2.13
1891-1895	0.62	0.22	2.09	0.75	1.74	2.53	5.56	1.07	0.52	0.07	2.75	3.42
1896-1900	0.73	0.19	2.04	0.63	1.32	2.54	5.03	1.04	0.49	0.09	1.55	1.51
1901-1905	0.80	0.16	1.94	0.55	1.17	2.56	4.29	0.95	0.49	0.08	1.21	1.76
1906-1910	0.88	0.14	1.65	0.45	0.95	2.56	3.75	0.84	0.54	0.07	1.28	1.49
1911-1915	1.01	0.12	1.59	0.38	0.79	2.34	3.45	0.68	0.56	0.09	1.24	2.14
1916-1920	1.08	0.09	1.39	0.28	0.54	2.27	2.98	0.51	0.47	0.06	1.58	1.82
1901 ..	0.78	0.20	2.09	0.83	1.22	2.55	4.48	1.00	0.49	0.03	2.17	1.72
1902 ..	0.79	0.16	2.08	0.55	1.13	2.61	4.71	0.93	0.58	0.11	0.94	1.65
1903 ..	0.76	0.18	1.85	0.58	1.25	2.46	3.95	0.99	0.46	0.08	0.80	1.59
1904 ..	0.81	0.15	1.98	0.54	1.17	2.71	4.38	1.02	0.50	0.09	1.04	2.13
1905 ..	0.86	0.12	1.56	0.48	1.06	2.47	3.70	0.81	0.41	0.09	1.09	1.80
1906 ..	0.88	0.14	1.71	0.49	1.06	2.68	3.52	0.91	0.47	0.07	1.63	1.63
1907 ..	0.77	0.15	1.70	0.41	1.01	2.53	4.30	0.80	0.56	0.07	1.09	1.26
1908 ..	0.89	0.12	1.65	0.47	0.96	2.52	3.91	0.87	0.59	0.06	1.16	1.31
1909 ..	0.93	0.13	1.70	0.44	0.87	2.75	3.90	0.85	0.52	0.09	0.94	1.94
1910 ..	0.92	0.15	1.49	0.43	0.84	2.33	3.13	0.77	0.54	0.07	1.56	1.30
1911 ..	1.05	0.13	1.56	0.39	0.88	2.17	3.43	0.61	0.58	0.08	1.40	1.61
1912 ..	1.00	0.10	1.53	0.44	0.76	2.29	3.78	0.60	0.52	0.09	1.10	2.15
1913 ..	0.98	0.12	1.42	0.39	0.77	2.28	3.26	0.75	0.50	0.10	1.05	2.26
1914 ..	1.00	0.13	1.70	0.36	0.82	2.37	3.44	0.73	0.61	0.09	1.18	2.46
1915 ..	1.04	0.12	1.76	0.30	0.74	2.58	3.36	0.69	0.59	0.08	1.45	2.23
1916 ..	1.05	0.12	1.64	0.30	0.48	2.39	2.99	0.60	0.54	0.08	1.22	2.18
1917 ..	1.01	0.11	1.57	0.36	0.57	2.29	2.79	0.52	0.50	0.06	1.09	1.87
1918 ..	1.05	0.10	1.43	0.27	0.65	2.14	3.32	0.47	0.43	0.07	0.93	1.86
1919 ..	1.11	0.07	1.20	0.23	0.55	2.24	2.97	0.50	0.43	0.06	2.51	2.15
1920 ..	1.19	0.06	1.10	0.23	0.47	2.29	2.83	0.47	0.44	0.04	2.14	1.05
1921 ..	1.26	0.07	1.30	0.27	0.54	2.37	2.79	0.51	0.47	0.08	1.59	1.65

See footnotes to Table E.

TABLE G, 1921.—POPULATION, AREA, DENSITY. TOTAL BIRTHS AND DEATHS,
WITH BIRTH AND DEATH RATES.

[INSTITUTION POPULATIONS, BIRTHS AND DEATHS, DISTRIBUTED.]

STATISTICAL DIVISIONS	Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS		Natural Rate of Increase	Mean Death Rate 1911-1920
				Total	Rate per 1,000	Total	Rate per 1,000		
City of Manchester	744,000	21,690	34	17,601	23'66	10,093	13'57	10'09	15'26
I. Manchester Township.....	110,205	1,646	67	3,256	29'54	1,986	18'02	11'52	23'44
I. North Manchester	205,028	8,033	26	4,676	22'81	2,510	12'24	10'57	13'06
I. South Manchester	428,767	12,011	36	9,669	22'55	5,597	13'05	9'50	14'30
{ Ancoats	40,009	399	100	1,221	30'52	720	18'00	12'52	23'40
{ Central	22,214	745	30	454	20'44	358	16'12	4'34	24'12
{ St. George's	47,982	502	96	1,581	32'95	908	18'92	14'03	23'24
Cheetham	42,876	919	47	857	19'99	517	12'06	7'93	11'36
Crumpsall	12,571	2,212	6	216	17'18	135	10'74	6'44	12'08
Blackley	13,175	1,080	12	256	19'43	156	11'84	7'59	11'51
Harpurhey	17,782	193	92	424	23'84	231	12'99	10'85	14'30
Moston	25,313	1,299	19	459	18'13	249	9'84	8'29	10'10
Newton Heath	41,189	1,341	31	1,017	24'69	548	13'30	11'39	14'60
Bradford	26,519	288	92	720	27'15	345	13'01	14'14	15'91
Beswick	11,305	96	118	342	30'25	153	13'53	16'72	16'00
Clayton	14,298	605	24	385	26'93	176	12'31	14'62	12'88
Ardwick	40,852	509	80	1,054	25'80	572	14'00	11'80	16'35
Openshaw	32,595	581	56	802	24'61	425	13'04	11'57	14'79
Gorton (West)	28,896	318	91	796	27'55	373	12'91	14'64	16'37
Rusholme and Kirk.	41,699	1,412	30	738	17'70	437	10'48	7'22	10'07
Chorlton-upon-Med	59,448	647	92	1,350	22'71	976	16'42	6'29	18'96
Hulme	64,932	477	136	1,830	28'18	1,082	16'66	11'52	19'66
Moss Side	35,660	421	85	769	21'56	440	12'34	9'22	11'99
Withington	60,182	5,899	10	953	15'84	590	9'80	6'04	10'25
Gorton	43,111	1,141	38	1,004	23'29	464	10'76	12'53	12'03
Levenshulme	21,392	606	35	373	17'44	238	11'13	6'31	9'74

TABLE H, 1921.

BIRTHS REGISTERED IN THE CITY OF MANCHESTER, IN ITS MAIN DIVISIONS AND IN DISTRICTS; DISTINGUISHING LEGITIMATE AND ILLEGITIMATE BIRTHS; ALSO THE PROPORTION OF MORTALITY AMONG INFANTS OF BOTH CLASSES UNDER ONE YEAR OF AGE.

STATISTICAL DIVISIONS	BIRTHS			DEATHS UNDER 1 YEAR		PROPORTION OF DEATHS UNDER 1 YEAR PER 1,000 BIRTHS			Deaths under 1 Year per 1,000 Births in the 10 years, 1911 to 1920
	Total	Illegitimate	Percentage of Illegitimate Births to Total Births	Total	Of Illegitimate Children	Total	Legitimate	Illegitimate	
City of Manchester ...	17,601	902	5'1	1,707	160	97	93	177	119
I. Manchester Township	3,256	203	6'2	425	41	131	126	202	153
II. North Manchester ...	4,676	180	3'8	412	25	88	86	139	110
III. South Manchester ...	9,669	519	5'4	870	94	90	85	181	112
I. { Ancoats	1,221	70	5'7	175	14	143	61	200	158
Central	454	31	6'8	61	6	134	130	194	152
St. George's.....	1,581	102	6'5	189	21	120	114	206	150
II. Cheetham.....	857	38	4'4	86	2	100	103	53	86
Crumpsall.....	216	5	2'3	16	2	74	66	400	120
Blackley	256	6	2'3	22	2	86	80	333	99
Harpurhey	424	15	3'5	34	2	80	78	133	110
Moston.....	459	9	2'0	33	3	72	67	333	97
Newton Heath.....	1,017	41	4'0	93	5	91	90	122	116
Bradford	720	32	4'4	59	1	82	84	31	126
Beswick	342	14	4'1	26	5	76	64	357	136
Clayton.....	385	20	5'2	43	3	112	110	150	120
III. Ardwick	1,054	49	4'7	101	12	96	89	245	127
Openshaw	802	34	4'2	72	5	90	87	147	121
Gorton (West)	796	48	6'0	94	5	118	119	104	126
Rusholme and Kirk	738	35	4'7	51	5	69	65	143	77
Chorlton-on-Med. ...	1,350	110	8'1	144	29	107	93	264	129
Hulme	1,830	95	5'2	216	17	118	115	179	141
Moss Side	769	51	6'6	42	7	55	49	137	72
Withington.....	953	36	3'8	52	5	55	51	139	71
Gorton	1,004	48	4'8	76	8	76	71	167	109
Levenshulme	373	13	3'5	22	1	59	58	77	81

TABLE J, 1921.

INFANTILE MORTALITY IN THE CITY, AND ITS THREE MAIN
DIVISIONS.

DEATH RATES UNDER ONE YEAR PER 1,000 BIRTHS.

CAUSES OF DEATH	City of Manchester	Manchester Township	North Manchester	South Manchester
All Causes	96.98	130.53	88.11	89.98
Measles	0.11	0.31	0.21	...
Whooping Cough	5.23	5.84	5.35	4.96
Other Com: Infectious Diseases†	0.28	...	0.43	0.31
Diarrhoeal Diseases	17.95	26.41	15.40	16.34
Tubercular Diseases‡	1.36	2.46	1.07	1.14
Convulsions	3.81	4.30	2.14	4.45
Other Nervous Diseases§	0.68	...	0.64	0.93
Lung Diseases	20.00	27.95	19.25	17.69
Premature Birth.....	18.86	26.41	16.68	17.38
Atrophy, &c. ||	7.61	9.83	8.55	6.41
Suffocation	0.45	0.31	0.43	0.52
Found dead in bed (overlaid) ...	1.19	1.84	0.86	1.14

† These are Smallpox, Scarlatina, Diphtheria, Membranous Croup, and various forms of "Fever," including the chief forms of Typhus and Typhoid.

‡ These are Phthisis, Tubercular Meningitis, Tabes Mesenterica, and General Tuberculosis (Scrofula).

§ These are Meningitis, and other diseases of the Brain and Spinal Cord.

|| These are such ill-defined causes as Atrophy, Marasmus, Debility, Inanition, &c.

TABLE K, 1921.—CITY OF MANCHESTER. ANNUAL RATES OF MORTALITY PER 1,000 PERSONS LIVING AT ALL AGES, IN THE CITY OF MANCHESTER AND IN ITS STATISTICAL DIVISIONS, FROM CERTAIN DISEASES AND GROUPS OF DISEASES.

CAUSES OF DEATH	City of Manchester	Manchester Township	North Manchester	South Manchester	City of Manchester Average of 10 years 1911-1920
All Causes	13'57	18'02	12'24	13'05	15'26
Smallpox.....	...	...	...	...	...
Measles	0'01	0'01	0'00	0'01	0'37
Scarlet Fever	0'08	0'05	0'14	0'06	0'08
Typhus Fever.....	...	...	...	...	...
Influenza.....	0'28	0'28	0'30	0'27	0'55
Whooping Cough	0'23	0'40	0'21	0'19	0'23
Diphtheria	0'12	0'15	0'11	0'12	0'11
Ill-defined Fever.....	...	...	...	...	...
Enteric Fever	0'02	0'02	0'03	0'01	0'04
Diarrhoeal Diseases	0'52	1'03	0'42	0'44	0'57
Puerperal Fever	0'04	0'04	0'01	0'05	0'03
Erysipelas	0'02	0'03	0'01	0'03	0'03
Pyæmia, Septicæmia	0'06	0'07	0'06	0'05	0'02
Phthisis (Tuberc: Pulmon:) ...	1'30	1'96	1'12	1'22	1'49
Tubercular Meningitis	0'13	0'15	0'14	0'12	0'17
Tuberc: Periton: Tabes Mes...	0'07	0'09	0'05	0'07	0'11
Tuberculous Dis: (other)	0'14	0'18	0'12	0'14	0'16
Alcoholism	0'02	0'02	0'02	0'03	0'04
Cancer	1'26	1'40	1'13	1'29	1'05
Rheumatic Fever	0'06	0'06	0'05	0'07	0'07
Premature Birth	0'45	0'78	0'38	0'39	0'46
Nervous Diseases	0'54	0'63	0'47	0'55	0'67
Heart and Blood Vessels Diseases	2'37	2'43	2'25	2'41	2'30
Bronchitis	1'43	2'25	1'27	1'30	1'55
Pneumonia	1'24	2'11	1'01	1'13	1'51
Respiratory Diseases (other) ...	0'11	0'15	0'09	0'11	0'16
Digestive Organs (Diseases of)	0'51	0'48	0'48	0'54	0'59
Urinary Organs (Diseases of)	0'47	0'55	0'43	0'47	0'51
Old Age	0'54	0'59	0'44	0'58	0'60

Rates per 1,000 births—Puerperal Fever 1'59, Childbirth 1'65

TABLE 1., 1921.

MANCHESTER.—CERTIFICATION OF THE CAUSES OF DEATH IN THE MAIN

DIVISIONS AND IN DISTRICTS.

STATISTICAL DIVISIONS.	Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
		Registered Medical Practitioners	Coroner		Certified by		Not Certified
					Regist'd Medical Prac- titioners	Coroner	
City of Manchester	10,093	9,434	585	74	93·5	5·8	0·7
I. Manchester Township...	1,986	1,836	136	14	92·4	6·9	0·7
II. North Manchester	2,510	2,357	139	14	93·9	5·5	0·6
III. South Manchester	5,597	5,241	310	46	93·7	5·5	0·8
I. { Ancoats	720	666	50	4	92·5	6·9	0·6
{ Central	358	319	35	4	89·1	9·8	1·1
{ St. George's	908	851	51	6	93·9	5·6	0·6
II. { Cheetham	517	477	33	7	92·2	6·4	1·4
{ Crumpsall ..	135	128	7	...	94·8	5·2	...
{ Blackley	156	144	12	...	92·3	7·7	...
{ Harpurhey	231	219	11	1	94·8	4·8	0·4
{ Moston	249	225	21	3	90·4	8·4	1·2
{ Newton Heath	548	522	24	2	95·3	4·4	0·4
{ Bradford	345	327	18	...	94·8	5·2	...
{ Beswick	153	147	5	1	96·0	3·3	0·7
{ Clayton	176	168	8	...	95·5	4·5	...
III. { Ardwick	572	534	36	2	93·3	6·3	0·4
{ Openshaw ...	425	400	24	1	94·1	5·7	0·2
{ Gorton (West)	373	345	24	4	92·5	6·4	1·1
{ Rusholme and Kirk. ...	437	410	23	4	93·8	5·3	0·9
{ Chorlton-upon-Medlock	976	917	50	9	94·0	5·1	0·9
{ Hulme	1,082	1,022	52	8	94·5	4·8	0·7
{ Moss Side	440	410	28	2	93·2	6·4	0·5
{ Withington.....	590	547	33	10	92·7	5·6	1·7
{ Gorton	464	436	25	3	94·0	5·4	0·6
{ Levenshulme	238	220	15	3	92·4	6·3	1·3

Tables E and F require some interpretation, and it has been quite properly stated that the actual progress achieved, so far as it can be represented by the death-rates, is not clearly shown by these tables in so far as they do not relate throughout to the same area.

I have, therefore, requested Mr. Dunks to get out figures showing the facts relating to the City as it was constituted in 1891.

It will be seen that they are but little less striking than the figures given in the Annual Report.

BIRTH-RATES, DEATH-RATES, AND INFANTILE MORTALITY IN THE YEAR 1891, THE AVERAGE FOR 3 YEARS 1891-93 COMPARED WITH THE YEAR 1921, AND THE AVERAGE FOR THE YEARS 1920-21 FOR THE CITY, AS CONSTITUTED IN 1894—*i.e.*, EXCLUDING THE DISTRICTS OF MOSS SIDE, WITHINGTON, GORTON, LEVENSHULME. THE POPULATION USED FOR THE 1920-21 RATES IS THE REGISTRAR-GENERAL'S CORRECTED FIGURE OF 744,000, LESS AN ESTIMATED POPULATION OF 179,667 FOR THE FOUR DISTRICTS MENTIONED.

	1891	Average 1891-93	1921	Average 1920-21
Birth-rate	33·8	33·5	25·7	27·0
Death-rate	26·0	24·5	14·9	14·9
Infantile Mortality	192·0	190·0	104·6	103·2
Death-rates from—				
Measles	0·43	0·57	0·01	0·18
Scarlet Fever	0·22	0·25	0·10	0·08
Diphtheria	0·25	0·28	0·13	0·11
Whooping Cough	1·02	0·73	0·26	0·19
Enteric Fever	0·37	0·29	0·02	0·02
Diarrhœa	0·85	1·68	0·63	0·51
Influenza	0·68	0·39	0·30	0·33
Puerperal Fever... ..	0·10	0·12	0·04	0·06
Phthisis	2·20	2·10	1·50	1·41
Other Tubercular Diseases	1·03	1·00	0·39	0·36
Nervous Diseases	* 2·30	* 1·90	0·60	0·56
Heart Diseases	2·69	2·59	2·42	2·49
Bronchitis	3·47	2·91	1·64	1·74
Pneumonia... ..	2·75	2·55	1·42	1·40
Other Resp.	0·55	0·46	0·10	0·13

* Cerebral Hæmorrhage, Apoplexy, Hemiplegia were included in the Nervous Diseases group at that time, but appear amongst those due to Heart and Blood Vessel Diseases in the later years.

NOTIFIABLE INFECTIOUS DISEASES OTHER THAN WHOOPING COUGH AND TUBERCULOSIS.

The diseases included in the Infectious Disease (Notification) Acts, 1889 and 1899, or regulations under the Public Health Acts, are as follows: Smallpox, Scarlet Fever, Diphtheria, Typhus Fever, Enteric or Typhoid Fever, Relapsing Fever, Continued Fever, Puerperal Fever, Erysipelas, and Asiatic Cholera, to which have been added Ophthalmia Neonatorum, Cerebro-Spinal Fever, Poliomyelitis, Polio-Encephalitis and Encephalitis-Lethargica, Malaria, Dysentery, Trench Fever, Acute Primary Pneumonia, and Acute Influenzal Pneumonia. The following cases were notified in 1921, and the numbers are compared with the average of the previous ten years:—

	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	Mean	1921
Smallpox ... ..	...	1	1	...	...	...	...	...	14	4	2	...
Chickenpox ... ..	...	...	...	...	...	...	...	...	1,153	1,936	1,545	2,443
Scarlet Fever	1,939	1,840	3,715	4,712	2,922	1,185	829	779	1,758	3,829	2,351	5,400
Diphtheria	472	474	650	746	548	614	581	518	471	914	599	1,002
Typhus Fever	10	...	...	1	...	...	1	...	...	...	1	...
Enteric Fever	256	242	292	156	174	78	86	68	90	54	150	74
Relapsing Fever ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	130	124	124	104	94	99	54	66	159	146	110	138
Erysipelas	442	396	412	551	492	320	228	243	392	382	386	385
Ophthalmia Neonatorum	443	503	331	414	414	379	315	307	344	392	384	465
Cerebro-Spinal Fever ... ..	...	6	1	2	15	7	7	5	11	11	7	3
Poliomyelitis	—	55	6	12	8	9	14	10	8	7	14	7
Polio-Encephalitis ... ..	...	...	...	...	...	...	...	...	4	1	3	...
Encephalitis- Lethargica	...	...	...	...	...	...	...	...	10	31	21	19
Malaria ... ..	...	...	...	...	...	...	...	...	312	172	242	38
Dysentery ... ..	...	...	...	...	...	...	...	...	6	9	8	8
Trench Fever ... ..	...	...	...	...	...	...	...	...	1	1	1	1
Primary Pneumonia ... ..	...	...	...	...	...	...	...	...	410	620	515	1,578
Influenzal Pneumonia ... ..	...	...	...	...	...	...	...	...	816	205	511	218
Measles ... ..	...	...	...	...	...	9,230	10,613	8,448	8,420	10,635	9,469	1,135
Rubeola ... ..	...	...	...	...	...	1,262	621	675	186	179	585	453
	3,692	3,641	5,532	6,698	4,667	13,183	13,349	11,119	14,565	19,528	16,904	13,367

In 1900 Erysipelas was made notifiable, in 1910 Ophthalmia Neonatorum, in 1912 Cerebro-Spinal Fever and Poliomyelitis, and in 1919 the diseases which first appear under that year. Measles were made notifiable in 1916, as was also Rubeola.

The deaths from the more common diseases are shown in the following figures:—

Years	Measles	Scarlet Fever	Diphtheria	Enteric Fever	Influenza	Whooping Cough	Diarrhoea	Phthisis
1911-20 average	276	58	80	29	423	173	421	1121
1921	5	59	90	12	207	169	387	967

SMALLPOX.

No cases of smallpox were notified during the year 1921, although two cases notified on January 2nd, 1922, commenced to be ill in the previous month.

CHICKENPOX.

Chickenpox was made a notifiable disease on September 15th, 1919, for six months, and its notifiability has been renewed from time to time since that date. In the period under review it was made notifiable for six monthly periods, on November 8th, 1920, May 8th, 1921, and November 8th, 1921. Each case was investigated and reported upon by the district Sanitary Inspector, and cases in which there appeared to be doubt as to the correctness of the diagnosis were seen by Dr. McClure.

CHICKENPOX, 1921.—NUMBER OF ATTACKS AT DIFFERENT AGES.

Under 1 year	...	...	...	...	...	159
1—2 years...	...	...	...	...	...	179
2—3	„	...	...	...	...	173
3—4	„	...	...	...	...	161
4—5	„	...	...	...	...	227
5—6	„	...	...	...	...	576
6—7	„	...	...	...	...	400
7—8	„	...	...	...	...	207
8—9	„	...	...	...	...	116
9—10	„	...	...	...	...	73
10—15	„	...	...	...	...	125
15—20	„	...	...	...	...	15
20—25	„	...	...	...	...	10
25—30	„	...	...	...	...	11
30	„	...	...	...	...	11

TOTAL 2,443

SCARLET FEVER.

The following figures show the course of the disease in quarters :—

TABLE I.—SCARLET FEVER.—ATTACKS IN QUARTERS ACCORDING TO DATE OF RASH.

Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
1917 ..	174	140	164	351	829
1918 ..	263	187	153	176	779
1919 ..	132	271	437	918	1758
1920 ..	735	654	907	1533	3829
1921 ..	1124	890	1161	2225	5400

This table shows that the periodic wave is still ascending.

During 1921 the rate of attack from scarlet fever was somewhat higher than in the towns used for comparison, and was highest in North Manchester.

TABLE 2.—SCARLET FEVER ATTACKS, 1921.—RATES PER 1,000 LIVING, AS COMPARED WITH THE MEAN FOR FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
Twelve Towns *	1·81	1·69	1·46	2·76	3·11	2·17	3·30
City of Manchester ...	1·57	1·26	1·01	2·22	4·87	2·19	7·26
Manchester Township ...	1·90	0·90	0·99	1·65	4·75	2·04	4·65
North Manchester	2·01	1·21	1·04	1·92	5·17	2·27	9·56
South Manchester	1·27	1·07	1·00	2·50	4·74	2·12	6·83

* These are Blackburn, Bolton, Bradford, Burnley, Halifax, Hull, Leeds, Liverpool, Oldham, Preston, Salford, and Sheffield.

The habit of scarlet fever to rise and fall over a wide area is shown in the above figures, and may be seen in the publications of the Ministry of Health, giving the facts of notification.

The weekly distribution of notified cases shows that the usual autumnal rise was prolonged up to the end of the year. There was a considerable increase in cases of influenza at the same period, and it is believed that this disease frequently simulated scarlet fever. Undoubted cases of influenza presented the typical scarlet fever throat and tongue, with enlargement of the sub-maxillary glands, and eruptions were often absent, or not typical of scarlet fever. This is no new feature of influenza, and it occurred quite often in 1891. On the other hand, circumoral pallor was often well marked in cases which gave a history of attack compatible with influenza. Having seen a large number of cases, I am confident that the two diseases were mingled, and certainly they were so in the minds of many practitioners.

From the following table it will be seen that no connection exists between a high rate of attack and low fatality in particular districts, though it exists for the City as a whole. When the number of cases increased rapidly in the last quarter, the case fatality rate reached the low figure of 0·5%. This may have been due to the mingling of the outbreak with influenza.

TABLE 3.—1921—SCARLET FEVER ATTACKS IN DISTRICTS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

DISTRICTS		ATTACKS	ATTACK RATE PER 1,000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
Man- chester Township	Ancoats	194	4·85	1·0	64·9
	Central	97	4·37	1·0	67·1
	St. George's	221	4·60	2·3	56·6
	Cheetham	327	7·63	1·2	61·7
	Crumpsall	105	8·35	1·0	38·1
North Manchester	Blackley	192	14·57	1·0	53·6
	Harpurhey	171	9·62	2·3	49·7
	Moston	260	10·27	1·2	41·2
	Newton Heath ...	310	7·53	0·6	48·7
	Bradford	274	10·33	1·1	66·1
	Beswick	142	12·56	2·0	73·2
	Clayton	179	12·52	1·7	60·3
South Manchester	Ardwick	274	6·70	1·1	56·2
	Openshaw	316	9·69	...	54·7
	Gorton (West) ...	191	6·61	1·5	60·2
	Rusholme & Kirk.	320	7·67	0·9	37·8
	Chorlton-on-Med.	363	6·11	2·2	62·0
	Hulme	512	7·88	1·4	65·8
	Moss Side	191	5·35	...	38·8
	Withington	236	3·92	0·8	36·9
	Gorton	354	8·21	0·6	48·9
	Levenshulme	171	7·99	0·6	38·6
City of Manchester ...		5,400	7·26	1·1	54·2

† Corrected; the fatal cases are those actually occurring amongst the cases notified.

The case fatality is lower than the mean for the past ten years.

TABLE 4.

Year.....	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	Mean	1921
Case fatality per cent.	1·8	2·8	2·5	3·1	2·7	3·0	1·8	2·8	2·2	1·2	2·4	1·1

TABLE 5.—SCARLET FEVER. NUMBER OF ATTACKS AND OF DEATHS ; ALSO THE CASE FATALITY PER CENT. AT DIFFERENT AGES FOR THE THIRTY YEARS, 1891-1920, AND FOR 1921.

Ages	1891-1920			1921		
	Attacks	Deaths	Case Fatality per cent.	Attacks	Deaths	Case Fatality per cent.
Under 1 year	652	111	17·0	28	1	3·6
1 to 2 years... ..	1,986	288	14·5	58	6	10·3
2 to 3 „	4,111	444	10·8	180	8	4·4
3 to 4 „	5,811	493	8·5	247	7	2·8
4 to 5 „	6,814	430	6·3	277	5	1·8
5 to 6 „	7,332	274	3·7	461	5	1·3
6 to 7 „	6,743	183	2·7	535	5	0·9
7 to 8 „	5,963	124	2·1	480	2	0·4
8 to 9 „	4,885	83	1·7	439	2	0·5
9 to 10 „	4,027	69	1·7	414	3	0·7
10 to 15 „	11,786	157	1·3	1,372	6	0·4
15 to 20 „	3,640	63	1·7	424	5	1·2
20 to 25 „	1,736	30	1·7	193	2	1·0
25 to 35 „	1,605	41	2·6	202	1	0·5
35 to 45 „	459	15	3·3	70	2	2·7
45 and over	128	4	3·1	20	2	10·0
All Ages	67,678	2,809	4·2	5,400	62	1·1

Table 6 gives a comparison of the death-rates from scarlet fever in different areas, and shows that the death-rate is higher than that for the entire country.

TABLE 6.—SCARLET FEVER MORTALITY, 1921.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
England and Wales.....	0·04	0·02	0·03	0·03	0·04	0·03	0·03
96 Great Towns	0·04	0·03	0·04	0·04	0·04	0·04	0·04
London.....	0·03	0·02	0·03	0·03	0·05	0·03	0·06
Manchester City	0·05	0·02	0·03	0·03	0·06	0·04	0·08
Manchester Township	0·13	0·03	0·05	0·07	0·07	0·07	0·05
North Manchester	0·05	0·04	0·02	0·03	0·04	0·04	0·14
South Manchester	0·02	0·01	0·03	0·03	0·06	0·03	0·06
148 Smaller Towns	0·04	0·02	0·02	0·03	0·03	0·03	0·03

It will be observed that the death-rate in North Manchester is higher than that for the two other main divisions of the City.

SCARLET FEVER, 1921.—ATTACKS IN WEEKS, ACCORDING TO DATE OF RASH.

First Quarter			Second Quarter			Third Quarter			Fourth Quarter		
Jan.	8	95	April	9	72	July	9	82	Oct.	8	157
"	15	89	"	16	56	"	16	69	"	15	158
"	22	102	"	23	68	"	23	79	"	22	156
"	29	84	"	30	88	"	30	63	"	29	166
Feb.	5	76	May	7	73	Aug.	6	82	Nov.	5	167
"	12	81	"	14	68	"	13	58	"	12	187
"	19	99	"	21	51	"	20	53	"	19	167
"	26	84	"	28	56	"	27	79	"	26	193
March	5	81	June	4	79	Sept.	3	79	Dec.	3	192
"	12	84	"	11	52	"	10	90	"	10	170
"	19	93	"	18	74	"	17	121	"	17	171
"	26	77	"	25	72	"	24	149	"	24	192
April	2	79	July	2	81	Oct.	1	157	"	31	149
Total ...	1124		Total...	890		Total ...	1161		Total ...	2225	

City total, 5,400.

SCARLET FEVER, ERYSIPELAS, AND
PUERPERAL FEVER.

In my Annual Report for 1901, I gave charts comparing the incidence of scarlet fever week by week with the incidence of enteric fever, and with the death-rates from summer diarrhœa. These charts show rises in the annual wave from scarlet fever which suggest some new factor brought into operation in autumn. What this cause may be is still matter for study, at all events as regards scarlet fever. I have elsewhere in 1910 given reason to believe that, in the case of enteric fever, the autumnal rise, at all events in its earlier portion, is conditioned by the housefly. But although the autumnal rise of scarlet fever nearly coincides in time with that from enteric fever, I am not prepared to say to what it is due. Some new agent of infection is certainly suggested.

I have had composite figures for the years 1908–1914 prepared by Mr. Dunks for scarlet fever, erysipelas, and puerperal fever, which show a striking resemblance between the curves for scarlet fever and for erysipelas, the rise extending from the 35th to the 44th week. It appears likely that some similar causes are in operation. In the case of puerperal fever the distribution in time follows no definite course, although this may be due to the small number of cases involved.

Of course the incidences of scarlet fever and erysipelas are very different as regards age, and as erysipelas depends much for its presence on scratches, cuts, and bruises, it is not to be expected that the correspondence would be close.

When the case mortalities, rates of incidence per 1,000 living, and death-rates are worked out and placed side by side for the different sanitary areas, no appearance of agreement is shown. But, even if the diseases were produced by a similar type of organism, it is scarcely to be expected that there would be close agreement.

All that can be gathered from this enquiry is the agreement in autumnal incidence between enteric fever, scarlet fever, and erysipelas. But I am not prepared to draw any conclusion from this agreement.

DIPHTHERIA.

The usual tables for this disease are given below.

The following table shows the number of cases notified each year for the last ten years:—

1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
474	650	746	548	614	581	518	471	914	1,002

TABLE I.

DIPHTHERIA, 1921.—ATTACKS IN WEEKS, ACCORDING TO
DATE OF ONSET.

FIRST QUARTER			SECOND QUARTER			THIRD QUARTER			FOURTH QUARTER		
Jan.	8	19	April	9	18	July	9	8	Oct.	8	23
"	15	26	"	16	23	"	16	10	"	15	19
"	22	26	"	23	14	"	23	15	"	22	23
"	29	30	"	30	17	"	30	13	"	29	26
Feb.	5	21	May	7	17	Aug.	6	12	Nov.	5	37
"	12	26	"	14	11	"	13	14	"	12	31
"	19	32	"	21	9	"	20	12	"	19	22
"	26	32	"	28	10	"	27	17	"	26	22
March	5	28	June	4	9	Sept.	3	24	Dec.	3	32
"	12	21	"	11	7	"	10	21	"	10	28
"	19	16	"	18	7	"	17	13	"	17	23
"	26	16	"	25	11	"	24	25	"	24	21
April	2	19	July	2	7	Oct.	1	19	"	31	20
Total...	312		Total...	160		Total...	203		Total...	327	

City total, 1,002.

From Table I. it will be seen that the course of the disease to a certain extent followed that of scarlet fever. It is well known that any exceptional incidence of scarlet fever produces a rise in the number of cases of diphtheria.

TABLE II.

DIPHTHERIA ATTACK RATE PER 1,000 LIVING FOR THE YEAR 1921, COMPARED WITH THE MEAN OF FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
*Twelve Notification Towns ...	1·13	1·09	1·03	1·62	1·61	1·30	1·39
City of Manchester	0·81	0·88	0·67	0·59	1·16	0·82	1·35
Manchester Township.....	0·95	0·78	0·88	0·77	1·08	0·89	1·07
North Manchester	0·97	0·99	0·81	0·72	1·26	0·95	1·59
South Manchester	0·70	0·64	0·55	0·49	1·13	0·70	1·30

* These are in Lancashire and Yorkshire.

The following table shows that the number of attacks is highest at ages 3 to 5:—

TABLE III.

DIPHTHERIA.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY AT DIFFERENT AGES, FOR THE THIRTY YEARS, 1891-1920, AND FOR 1921.

AGES	1891-1920			1921		
	ATTACKS	DEATHS	CASE FATALITY*	ATTACKS	DEATHS	CASE FATALITY*
Under one year ...	354	226	63·8	8	2	25·0
1 to 2 years ...	1046	517	49·4	24	8	33·3
2 to 3 " ...	1312	462	35·2	46	8	17·4
3 to 4 " ...	1588	446	28·1	67	11	16·4
4 to 5 " ...	1660	392	23·6	89	14	15·6
5 to 6 " ...	1556	318	20·4	111	15	13·5
6 to 7 " ...	1178	185	15·7	108	7	6·5
7 to 8 " ...	897	119	13·3	95	7	7·4
8 to 9 " ...	740	93	12·6	82	5	6·1
9 to 10 " ...	549	63	11·5	51	...	...
10 to 15 " ...	1556	85	5·5	176	7	4·0
15 to 20 " ...	710	32	4·5	69	1	1·4
20 to 25 " ...	537	16	3·0	24	1	4·2
25 to 35 " ...	720	21	2·9	29	1	3·4
35 to 45 " ...	302	6	2·0	16	...	...
45 and over ...	137	12	8·8	7	...	...
All ages	14842	2993	20·2	1002	87	8·7

* The percentages in this column are the actual proportions of fatal cases to the attacks at those ages.

The comparison of the case fatality of 1921 with that for the 30 previous years is matter for great satisfaction.

The case fatality at all ages since 1901 has been as follows :—

1901 28·8	1902 29·4	1903 21·9	1904 20·7	1905 22·4	1906 21·1	1907 20·4	1908 21·8	1909 17·9	1910 19·9	1911 16·5
1912 20·0	1913 14·9	1914 14·3	1915 18·8	1916 11·7	1917 10·8	1918 10·8	1919 9·1	1920 7·3	1921 8·7	...

From the following table we see that the apparent incidence of the disease was greatest in the districts of Blackley, Levenshulme, Cheetham, Clayton, and Gorton. The percentage of removals is 60·6. The disease is one which yields good results to isolation and care in removing infection.

TABLE IV.

DIPHTHERIA, 1921.—ATTACKS IN DISTRICTS, WITH ATTACK RATE, CASE FATALITY PER CENT., AND REMOVALS TO HOSPITAL PER CENT.

DISTRICTS		ATTACKS	Deaths	ATTACK RATE PER 1000 LIVING	† CASE FATALITY PER CENT.	REMOVALS TO HOSPITAL PER CENT.
Man- chester Township	Ancoats	43	6	1·08	14·0	83·7
	Central	11	...	0·50	...	81·8
	St. George's	64	12	1·33	18·7	67·2
North Man- chester	Cheetham	90	6	2·10	6·7	64·5
	Crumpsall	15	1	1·19	6·7	66·6
	Blackley	43	3	3·26	7·0	46·5
	Harpurhey	26	2	1·46	7·7	57·7
	Moston	31	...	1·22	...	42·0
	Newton Heath...	47	2	1·14	4·3	78·7
	Bradford	30	2	1·13	6·7	80·0
	Beswick	15	3	1·33	20·0	86·7
	Clayton	30	5	2·10	16·7	36·7
South Man- chester	Ardwick	33	3	0·81	9·1	75·8
	Openshaw	41	4	1·26	9·8	63·4
	Gorton (West) ...	33	2	1·14	6·1	72·7
	Rusholme & Kirk.	60	2	1·44	3·3	60·0
	Chorlton-on-Med	37	2	0·62	5·4	62·1
	Hulme	113	16	1·74	14·1	57·6
	Moss Side	36	3	1·01	8·3	47·3
	Withington	48	3	0·80	6·3	56·2
	Gorton	88	2	2·04	2·3	55·7
	Levenshulme ...	68	8	3·18	11·8	38·2
City of Manchester...		1,002	87	1·35	8·7	60·6

† Corrected : the fatal cases are those actually occurring amongst the cases notified.

The figures given below show that in 1921 Manchester had a death-rate from Diphtheria equal to that which held for England generally.

TABLE V.

DIPHTHERIA MORTALITY, 1921.—RATE PER 1000 LIVING COMPARED WITH MEAN OF FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
England and Wales	0·14	0·13	0·14	0·13	0·15	0·14	0·12
96 Great Towns	0·15	0·13	0·15	0·14	0·16	0·15	0·15
London	0·14	0·14	0·17	0·18	0·22	0·17	0·25
Manchester City	0·09	0·08	0·08	0·05	0·09	0·08	0·12
Manchester Township	0·13	0·07	0·12	0·10	0·06	0·10	0·15
North Manchester.....	0·10	0·11	0·06	0·04	0·09	0·08	0·11
South Manchester.....	0·07	0·07	0·07	0·05	0·09	0·07	0·12
148 Smaller Towns	0·15	0·13	0·14	0·12	0·14	0·14	0·11

EXAMINATION OF "CONTACTS."

So far as was practicable swabs were taken from the throats and noses of members of each family under 14 years of age in which there had occurred a positive case of Diphtheria.

In all, 1,622 persons were swabbed, and 79, or 4·9 per cent., were found to be harbouring the Diphtheria bacillus.

With a few exceptions these were admitted to Monsall Hospital, and kept under observation until three successive swabs proved negative.

SUPPLY OF ANTITOXIN.

Diphtheria antitoxin is supplied free to all medical practitioners in the City, and may be obtained by them at any time during office hours from the Public Health Office or from the district Police Stations at any time during the day or night. The total quantity supplied in this manner was 2,622,000 units, at a cost of £172.

ENTERIC FEVER.

BY DR. W. ST. C. MCCLURE.

The number of cases of enteric fever occurring during 1921 was 74.

Table I. shows the attack and death-rates compared with those for England and Wales.

TABLE I.

INCIDENCE OF AND DEATH-RATE FROM ENTERIC FEVER IN MANCHESTER.

Number of notified cases, deaths, and death-rates per 1,000 living from Enteric Fever in each of eighteen successive years.

YEAR	1904	1905	1906	1907	1908	1909	1910	1911	1912
No. of cases notified	325	345	384	265	393	369	358	256	242
No. of deaths.	66	55	83	37	75	71	62	46	43
Death - rate — Manchester	0·12	0·09	0·14	0·06	0·11	0·13	0·09	0·07	0·06
Death - rate — England and Wales...	0·09	0·09	0·09	0·07	0·07	0·06	0·05	0·07	0·04
YEAR	1913	1914	1915	1916	1917	1918	1919	1920	1921
No. of cases notified and accepted . .	292	156	174	78	86	68	90	54	74
No. of deaths	47	34	46	22	10	10	19	13	12
Death-rate — Manchester	0·06	0·05	0·06	0·03	0·01	0·01	0·02	0·02	0·02
Death-rate — England and Wales..	0·04	0·05	0·04	0·03	0·03	0·03	0·01	0·01	0·02

Distribution.

Of the deaths, there were 4 in Newton, and 1 each in Ancoats, St. George's, Crumpsall, Moston, Bradford, Openshaw, Hulme, and Gorton.

Tabulation of the attacks according to the dates of onset shows that in the first quarter there were 17 cases; second quarter, 24; third quarter, 15; fourth quarter, 18.

Table II. shows at what ages enteric fever appears to be most prevalent, and also at what ages it is most fatal.

TABLE II.
ENTERIC FEVER.—NUMBER OF ATTACKS, OF DEATHS, AND CASE FATALITY PER CENT. AT DIFFERENT AGES FOR THE THIRTY-ONE YEARS, 1891-1921.

Ages	1891-1921		
	Attacks	Deaths	Case Fatality Per cent.
Under one year	17	7	41·2
1 to 2 years	53	8	15·1
2 „ 3 „	113	16	14·2
3 „ 4 „	166	22	13·3
4 „ 5 „	221	24	10·9
5 „ 6 „	255	28	11·0
6 „ 7 „	253	26	10·3
7 „ 8 „	239	20	8·4
8 „ 9 „	252	21	8·3
9 „ 10 „	248	25	10·1
10 „ 15 „	1443	158	11·0
15 „ 20 „	1590	289	18·2
20 „ 25 „	1544	306	19·8
25 „ 35 „	2252	524	23·3
35 „ 45 „	1100	326	29·6
45 and over	747	258	34·5
All ages	10493	2058	19·6

TABLE III.

ENTERIC FEVER.—ATTACK RATES IN DISTRICTS, 1921, COMPARED WITH THE
MEAN ATTACK RATES, 1911-1920.

Districts	Attack Rate per 1,000 living	Mean Attack Rate, 1911-1920
Ancoats	0·10	0·27
Central	0·36	0·34
St. George's	0·04	0·32
Cheetham	0·09	0·17
Crumpsall	0·16	0·28
Blackley .. .. .	..	0·09
Harpurhey .. .. .	..	0·20
Moston	0·04	0·11
Newton	0·27	0·21
Bradford	0·15	0·25
Beswick	0·09	0·28
Clayton	0·42	0·21
Ardwick	0·02	0·16
Openshaw	0·09	0·37
West Gorton	0·07	0·29
Rusholme .. .. .	..	0·22
Chorlton-upon-Medlock	0·01	0·24
Hulme	0·12	0·27
Moss Side	0·06	0·10
Withington	0·08	0·06
Gorton	0·12	0·19
Levenshulme	0·09	0·07
City	0·10	0·21

TABLE IV.

ENTERIC FEVER ATTACKS, 1921.—RATES PER 1,000 LIVING, COMPARED
WITH MEAN OF FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
Twelve Notification Towns..	0·17	0·15	0·10	0·08	0·08	0·12	0·07
City of Manchester ..	0·10	0·11	0·09	0·11	0·07	0·10	0·10
Manchester Township..	0·22	0·17	0·17	0·12	0·01	0·14	0·13
North Manchester	0·11	0·14	0·11	0·12	0·09	0·11	0·14
South Manchester	0·07	0·08	0·06	0·11	0·08	0·08	0·07

TABLE V.

ENTERIC FEVER ATTACKS IN WEEKS REPORTED IN 1921, ACCORDING TO
DATE OF ONSET.

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Jan .. 8	2	April .. 9	4	July .. 9	2	Oct. .. 8	1
, .. 15	..	, .. 16	2	, .. 16	..	, .. 15	5
, .. 22	.	, .. 23	4	, .. 23	1	, .. 22	2
, .. 29	1	, .. 30	4	, .. 30	1	, .. 29	..
Feb. .. 5	1	May .. 7	1	Aug. .. 6	..	Nov. .. 5	1
, .. 12	2	, .. 14	1	, .. 13	1	, .. 12	1
, .. 19	2	, .. 21	2	, .. 20	..	, .. 19	1
, .. 26	2	, .. 28	..	, .. 27	1	, .. 26	1
March .. 5	1	June .. 4	2	Sept. .. 3	2	Dec. .. 3	3
, .. 12	1	, .. 11	..	, .. 10	1	, .. 10	1
, .. 19	1	, .. 18	1	, .. 17	3	, .. 17	1
, .. 26	2	, .. 25	1	, .. 24	3	, .. 24	1
April.. 2	2	July .. 2	2	Oct. .. 1	..	, .. 31	..
Total..	17	Total ..	24	Total ..	15	Total ..	18

TOTAL—74.

From the next table we see that Manchester compares not unfavourably with the country generally as regards mortality from enteric fever during the present year.

TABLE VI.

ENTERIC FEVER MORTALITY, 1921.—RATE PER 1,000 LIVING, COMPARED WITH
MEAN OF FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
England and Wales	0·03	0·03	0·03	0·01	0·01	0·02	0·02
London	0·02	0·02	0·02	0·01	0·01	0·02	0·01
Dublin	0·13	0·05	0·07	0·03	0·04	0·06	0·02
City of Manchester	0·03	0·01	0·01	0·02	0·02	0·02	0·02
Manchester Township.. ..	0·06	0·02	0·01	0·02	0·01	0·02	0·02
North Manchester	0·02	0·01	0·02	0·02	0·02	0·02	0·03
South Manchester	0·03	0·01	0·01	0·03	0·02	0·02	0·01

Source of Infection.

Of the 74 cases, 5 were infected outside the City ; 16 or 23·2 per cent. were ascertained to be due to direct infection from known cases ; 16 or 23·2 per cent. were attributed to the consumption of contaminated mussels, and in the remaining 37 cases the source of infection was untraced.

TABLE VII.—GIVING PARTICULARS OF TYPHOID CASES ATTRIBUTED TO
CONTAMINATED MUSSELS.

Case	Age and Sex	Date of Eating	Raw or Steamed	Onset of Illness	Retailer	Wholesaler	Other Persons Eating
1	F 27	Dec. 11, 16	R	Dec. 30	A	AI	None.
2	F 30	Jan. 15, 22, 29	R	Feb. 1	A	AI	Husband (inoculated 1918). Blood + $\nu\epsilon$, no symptoms, faeces and urine — $\nu\epsilon$
3	M 19	Feb. 6, 12	R	Feb. 16	A	AI	None.
4	M 17	Feb. 3	R	Feb. 22	A	AI	Mother ate two mussels, no symptoms.
5	M 25	Feb. 19	R	Feb. 28	A	AI	None.
6	M 16	Feb. 6, 12, 13	S	Feb. 28	B	B	Three others, one of whom had headache and pains in stomach. Blood — $\nu\epsilon$
7	F 25	Jan. 21, 28	S	Feb. 16	C	CI	Companion, no symptoms.
8	M 35	Mar. 7, 14	R	Mar. 24	B	B	Five others, M22 and M24 showed + $\nu\epsilon$ blood. M22 no symptoms, faeces and urine — $\nu\epsilon$. M24 typhoid.
9	M 24	April 7, 14	R	April 18	B	B	None.
10	M 30	Mar. 29	S	April 14	B	B	None.
11	F 28	Mar. 24	S and R	April 7	B	B	Husband (inoculated 1918). Blood + $\nu\epsilon$, no symptoms.
12	M 47	Mar. 24	R	April 16	B	B	Wife, no symptoms.
13	M 16	Sep. 11, 12	R	Sept. 23	C	CI	None.
14	F 20	Sept. 3	S	Sept. 18	B	B	Two companions, M24 and M23 (both inoculated 1918). Bloods + $\nu\epsilon$, faeces and urine — $\nu\epsilon$
15	F 11	Sept. 22	S	Oct. 8	B	B	F29, Blood + $\nu\epsilon$, no symptoms; faeces and urine — $\nu\epsilon$
16	F 33	Oct. 24	R	Nov. 4	Hawker		None.

Information which it was possible to obtain from the dealers concerned, was, in many instances, incomplete and unsatisfactory. Retailer B for example, who is also a wholesaler was able, in most of the cases investigated, to give a list of places from which the suspected mussels might have been derived, but was quite unable to give any information of value. In the batch of cases (cases 1 to 6) which occurred in the early part of the year, Irish layings which had before come under suspicion were involved, and a report on the subject was made to the Hospitals Sub-Committee and transmitted to the Ministry of Health.

Table showing age and sex of 213 family contacts whose blood was examined for the Widal reaction and the results :—

			0-5 years		5-15 years		15-25 years		25 years and over		Total	
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Positive	..	..	...	..	..	I	5	I	15	7	20	9
Negative	..	..	10	9	29	13	16	20	35	52	90	94

213 family contacts were examined, and the blood of 29 gave a positive Widal reaction ; 10 of these were found to be suffering from an attack of typhoid ; one gave a history of recent illness, but from the others no such history could be obtained. It must be noted that 10 of the latter group out of 18 had, at some time, been inoculated. The stools and urine were examined bacteriologically in 14 cases with negative results.

PARATYPHOID.

During the last quarter of the year arrangement was made for the routine testing with paratyphoid bacilli of all specimens of blood submitted to the Public Health Laboratory, whether such specimens were obtained for diagnostic purposes or from apparently healthy contacts with a known case of typhoid fever.

Of 114 specimens so examined, 16 gave a reaction with paratyphoid bacilli, some further particulars of which are here given. Positive typhoid and paratyphoid A and B reaction, 13 cases ; negative typhoid but positive reaction with A and B, 2 cases ; positive only with A and B, one case.

Of the 13 specimens which gave a positive typhoid reaction, 10 were from persons who had been inoculated whilst in the army, and of these, 6 presented no symptoms nor did bacteriological examination of their stools and urine show any evidence of infection ; one was diagnosed and treated as pneumonia, one

as scarlet fever, one as influenza, and one as typhoid fever; 3, who had not previously been inoculated, were diagnosed and treated in Monsall Hospital as typhoid fever.

In two instances the blood was negative to typhoid, but positive to paratyphoid A and B, and the cases were treated as paratyphoid fever. The source of infection was untraced, though one of the persons concerned had eaten shell-fish 14 days before the onset of illness.

One case was positive only to paratyphoid B, and the origin of the illness was not ascertained.

BACTERIOLOGICAL EXAMINATIONS MADE FOR THE COUNTY BOROUGH OF MANCHESTER DURING THE YEAR 1921, PUBLIC HEALTH LABORATORY, UNIVERSITY OF MANCHESTER.

Month	Diphtheria			Typhoid			Tuberculosis					
							Sputum			Milk		
	+	—	Total	+	—	Total	+	—	Total	+	—	Total
January ...	94	386	480	12	45	57	45	135	180	5	22	27
February ...	81	472	553	4	20	24	54	105	159	2	24	26
March ...	53	485	538	10	18	28	43	185	228	1	28	29
April ...	74	515	589	18	56	74	53	147	200	4	43	47
May ...	35	216	251	11	37	48	40	128	168	1	29	30
June ...	26	192	218	9	30	39	53	147	200	3	22	25
July ...	46	254	300	6	43	49	51	136	187	2	28	30
August ...	37	178	215	1	17	18	38	106	144	5	25	30
September	53	318	371	2	18	20	37	115	152	5	24	29
October ...	83	538	621	12	56	68	43	142	185	8	31	39
November	97	467	564	15	40	55	40	109	149	8	28	36
December...	105	589	694	4	13	17	39	125	164	10	34	44
Total ...	784	4,610	5,394	104	393	497	536	1,580	2,116	54	338	392

Total specimens enumerated above—8,399. Other investigations 359, which include typhoid blood for paratyphoid 129, cerebro spinal fluid 17, milk for dirt bacteria, etc., 129, naso-pharyngeal swabs 9, food poisoning outbreak 6, fæces and urine for typhoid and dysentery 29, toilet preparations 24, shaving brushes 4, etc., etc.

It will be seen, from the above statement, that the chief item of expenditure was the examination of swabs from contacts with cases of diphtheria. Undoubtedly a fair measure of protection is afforded by this procedure, and it is expensive, the more so that the examinations are incomplete unless the nasal cavities are examined as well as the throat. If only cases presenting signs suggestive of diphtheria were examined, the expense would be reduced, but many carriers would escape. On the other hand it is proposed to examine diphtheria bacilli for virulence. I am doubtful whether this policy will be found cheaper in the long run, unless a Corporation Laboratory is provided, and Clinical investigation is extended.

POLIOMYELITIS.

BY DR. McCLURE.

Particulars of notified cases of poliomyelitis are given in the following table :—

Case	Sex	Age	District	Onset	Notified	Paralysis	Result—Jan., 1921
1	M	years $\frac{9}{12}$	St. George's	Feb., 1921	Mar. 21	Both Legs	Recovery
2	M	4	Rusholme	April, 1921	May 13	Left leg	Permanent paralysis
3	F	2	Ancoats	May, 1921	May 23	Left leg	Permanent paralysis
4	M	3	Moston	Sept., 1921	Nov. 21	Left leg	Permanent paralysis
5	M	18	Withington	Aug., 1921	Nov. 6	Both legs	Died Jan. 29, 1922
6	F	13	Harpurhey	Nov., 1921	Dec. 10	Both legs	Recovering
7	M	6	St. George's	1917	Dec. 14	—	Died Dec. 7, 1921

In addition to the cases noted above, health visitors in the course of their work reported 32 children with paralysis of one or other of their limbs which was probably due to an old attack of acute anterior poliomyelitis of which we had not previously known. The dates of onset of these cases were spread over the last 10 years. The mothers were advised as to the steps which should be taken to obtain appropriate treatment.

CEREBRO-SPINAL FEVER.

BY DR. McCLURE.

Three cases of cerebro-spinal fever were notified in 1921, the diagnosis being confirmed by the presence of the meningococcus in the cerebrospinal fluid.

Case 1, F 9, onset March 5th, notified March 9th, removed to Monsall hospital March 10th, died April 27th.

Case 2, F 17, sister of case 1, onset March 12th, notified March 14th, removed to Monsall March 14th, died March 18th.

Case 3, M 9 months, onset September 2nd, notified September 6th, removed to Monsall September 6th, died October 9th.

Contacts.—9 family contacts attended at the Public Health Laboratory and swabs taken from the nasopharynx of each proved to be negative.

Other reported cases.—14 other persons reported to be suffering from cerebro-spinal meningitis were seen by Dr. McClure at the request of the Medical Attendant. Pathological examination showed that 7 were cases of tuberculous meningitis, and that one was due to pneumococcal infection. Of the remaining 6 cases, the diagnosis arrived at after observation, was—pneumonia, 2 cases ; influenza, 1 ; septic meningitis, 1 ; scarlet fever, 1 ; nil, 1.

ENCEPHALITIS LETHARGICA.

BY DR. MCCLURE.

During 1921, 32 cases of encephalitis lethargica were notified and accepted as such after investigation and observation. The onset of illness in 13 was in 1920, and those cases were discussed in the Annual Report for that year. There remain 19 cases in which the illness began in 1921.

The following table gives the age-groups and the sex of those attacked, and of those whose illness proved fatal :—

Age Groups	Cases		Deaths		Total Cases	Total Deaths
	M	F	M	F		
Under 10 years ..	..	3	..	1	3	1
10 to 20 years ..	3	2	1	1	5	2
20 to 30 „ ..	..	2	..	..	2	..
30 to 40 „ ..	1	2	..	1	3	1
40 to 50 „ ..	2	1	1	1	3	2
50 to 60 „ ..	2	1	2	1	3	3
Total . . .					19	9

Seasonal Incidence.

1st quarter, 11 cases ; 2nd quarter, 4 ; 3rd quarter, 1 ; 4th quarter, 3. In the first quarter, 7 cases occurred in January, 3 in February, and 1 in March.

Local Incidence.

The cases were widely distributed over the City, and no connection between them was traced. During the past 2 years, 50 cases have occurred in 22 different districts of Manchester, there being no preponderance of cases in any one particular district.

Other cases reported.

Thirteen other cases reported as encephalitis lethargica were investigated by Dr. McClure, and pathological examination in 10 cases revealed the true nature of the illness to be tuberculous meningitis in 6 cases; cerebellar abscess, 1; cerebellar tumour, 1; malignant endocarditis, 1; streptococcal meningitis, 1. The remaining 3 cases were, after observation, considered to be—cerebral hæmorrhage, epilepsy, and tuberculous meningitis respectively.

End result of 52 cases.

Of 52 cases reported and accepted as encephalitis lethargica during 1920 and 1921, 27 or 51·9 per cent. proved fatal; 12 recovered completely, and the condition of the remaining 13 in January, 1922 was as follows:—In 3, less than 4 months had elapsed since the onset of illness and the patients were still very ill. The others had been ill for more than 9 months and showed no prospect of improvement; 3 of these presented the syndrome of paralysis agitans; 3 suffered from extreme mental depression and general asthenia; 3 had paresis of one or more limbs, and in one, strabismus persisted, and there was a mental and a moral change.

MEASLES AND GERMAN MEASLES.

(NOTIFIABLE IN JANUARY, 1916.)

The numbers notified were in the respective quarters of 1921:—

Diseases Notified	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
Measles, by Doctors	174	312	159	82	727
„ Others	98	186	95	29	408
Total . .	272	498	254	111	1,135
German Measles, by Doctors . .	86	163	78	64	391
„ „ Others . .	19	18	24	1	62
Total . .	105	181	102	65	453

The deaths from Measles in successive years are shown in the following table :—

TABLE I.

DEATHS FROM MEASLES IN THE CITY OF MANCHESTER.

Years	Under One Year			Years of Age				Total 5 Years and upwards	Total deaths at all ages
	Under 3 Months	3-5 Months	6-11 Months	1-	2-	3-	4-		
1899- 1910 }	20	65	896	1752	696	396	199	221	4245
1911	1	7	73	152	47	30	16	11	337
1912	4	8	99	163	88	58	38	32	490
1913	5	3	62	98	37	20	19	15	259
1914	1	3	62	127	54	19	9	18	293
1915	1	5	98	215	64	29	20	15	447
1916	3	2	37	80	28	12	8	9	179
1917	0	5	62	98	55	24	17	16	277
1918	0	2	38	55	26	21	13	11	166
1919	0	2	24	37	18	11	3	9	104
1920	0	8	45	67	39	17	15	19	210
1921	2	0	0	1	1	0	0	1	5

The deaths in quarters are given in Table 2 below.

It will be seen that the heaviest mortalities generally occur in the first and second quarters of the year, though one year differs greatly from another in this respect.

TABLE 2.—MEASLES, DEATHS IN QUARTERS.

YEAR	1st Quarter	2nd	3rd	4th	Whole Year
1901-1910 (mean) ..	80	122	68	59	329
1911	48	197	61	31	337
1912	214	211	28	37	490
1913	85	105	58	11	259
1914	37	132	50	74	293
1915 ..	153	224	39	31	447
1916	27	84	31	37	179
1917	134	123	14	6	277
1918	36	55	30	45	166
1919	12	32	16	44	104
1920	121	88	1	0	210
1921	1	2	0	2	5

In Table 3 is given a comparison of Manchester mortality with that occurring in other districts.

TABLE 3.—1921.—MEASLES MORTALITY RATES.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	Mean 1916-20	1921
England and Wales	0'20	0'06
96 Great Towns	0'27	0'08
London	0'28	0'05
City of Manchester	0'24	0'01
Manchester Township	0'42	0'01
North Manchester	0'20	0'00
South Manchester	0'22	0'01
148 Smaller Towns	0'20	0'05

The distribution of the deaths in districts was one each in Ancoats, Crumpsall, Ardwick, Chorlton-upon-Medlock, and Gorton.

(Table omitted.)

The above table shows that in 1921 the death-rate from Measles was in Manchester lower than that for the country generally.

WHOOPIING COUGH.

The cases of this disease notified are obtained entirely through the schools, and the same disabilities attach to this mode of notification as were experienced in Measles. Notwithstanding, these notifications are useful. The cases are visited and dealt with by the Health Visitors in the same manner as cases of Measles.

The highest death-rates are in Levenshulme (1·40), Withington (1·00), St. George's (0·56), Beswick (0·53), and West Gorton (0·42). The death-rate for 1921 was about double that of the country generally.

Whooping Cough notifications during 1921 :—

First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
1,302	1,694	1,059	360	4,415

TABLE I.

1921.—WHOOPIING COUGH MORTALITY.—RATE PER 1,000 LIVING, COMPARED WITH MEAN OF FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
England and Wales	0·16	0·13	0·29	0·07	0·11	0·15	0·12
96 Great Towns.....	0·21	0·15	0·34	0·07	0·14	0·18	0·13
London	0·18	0·13	0·43	0·05	0·17	0·19	0·12
City of Manchester ...	0·40	0·06	0·43	0·05	0·11	0·21	0·23
Manchester Township ...	0·76	0·05	0·90	0·06	0·04	0·36	0·40
North Manchester.....	0·34	0·05	0·34	0·05	0·09	0·17	0·21
South Manchester	0·34	0·07	0·36	0·05	0·13	0·19	0·10
148 Smaller Towns	0·14	0·15	0·25	0·08	0·10	0·14	0·11

TABLE 2—WHOOPIING COUGH, DEATHS IN QUARTERS.

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Whole Year
1911	34	56	31	19	140
1912	123	131	32	12	298
1913	24	37	47	31	139
1914	81	140	52	10	283
1915	10	28	11	21	70
1916	82	184	24	10	300
1917	6	5	5	33	49
1918	179	120	28	3	330
1919	8	6	3	23	40
1920	44	20	11	9	84
1921	40	78	31	20	169

DIARRHŒA.

For a number of years a continued effort has been made to prevent the breeding of flies in horse manure and other collections of refuse, an effort which was maintained in 1921. In fact, one might say that a very strenuous effort was made to remedy the conditions under which horse manure is stored, removed, and subsequently dealt with. But, in spite of this, we partially failed to control the production of flies. To no small extent this was due to failure to secure the burying of manure in allotments. But this subject will be further explained. The number of deaths from this cause was higher than in any year since 1915, though, notwithstanding fluctuations in this number from year to year, comparison with other localities in this and previous years seems to point to success in this campaign against flies, the mortality rate being but little above that of the average of the 96 towns. See table 1 below :—

TABLE 1.—1921.—DIARRHŒA AND SIMPLE CHOLERA MORTALITY.—

DEATHS UNDER TWO YEARS OF AGE PER 1,000 BIRTHS,
COMPARED WITH THE MEAN OF FIVE YEARS.

	1916	1917	1918	1919	1920	Mean	1921
England and Wales	12·47	12·18	10·99	9·59	8·3	10·7	15·5
96 Great Towns	16·24	16·14	14·46	12·24	10·4	13·9	19·3
London ..	15·80	18·70	15·67	16·22	9·5	15·2	21·3
City of Manchester	19·01	19·00	9·29	11·05	12·4	14·2	20·9
Manchester Township	42·58	39·60	18·20	13·14	18·6	26·4	33·8
North Manchester	13·81	13·69	6·87	9·43	9·4	10·6	17·1
South Manchester	14·04	15·12	7·78	11·16	11·7	12·0	18·4
148 Smaller Towns	10·79	10·08	9·73	8·67	7·8	9·4	15·6

The number of deaths in successive years, and their distribution in quarters of the year, are exhibited in the following figures :—

TABLE 2.—DIARRHŒA AND SIMPLE CHOLERA DEATHS IN QUARTERS,
1911-1920, and 1921.

	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	Mean	1921
First Quarter.....	44	49	60	67	49	55	48	30	28	45	48	59
Second Quarter..	50	40	46	53	57	48	30	31	27	54	44	59
Third Quarter....	958	102	351	290	255	135	140	54	59	63	241	139
Fourth Quarter...	97	81	165	114	127	75	61	32	56	88	90	130
	1149	272	622	524	488	313	279	147	170	250	423	387

This table shows that the mortality was about equally distributed between the third and fourth quarters, while table 3 shows that the meteorological conditions were eminently favourable to a high mortality in the third quarter of the year.

The meteorological data given in the following table show that the third quarter was warm and dry :—

TABLE 3.

Third Quarter of the years	Mean Temperature	Rainfall, Inches	Humidity, per cent.	Diarrhœa and Simple Cholera Mortality. Annual Rate (third quarter) per 1,000 living
1891-1900 Mean	59°·2	9·9	76 %	4·04
1901-1910 Mean	59°·1	8·5	77 %	2·81
1911-1920 Mean	59°·4	9·6	78 %	1·32
1911	63°·0	6·7	69 %	5·48
1912	56°·9	12·3	79 %	0·56
1913	59°·4	4·9	80 %	1·89
1914	59°·8	9·2	77 %	1·57
1915	58°·6	9·5	77 %	1·37
1916	60°·2	5·7	79 %	0·71
1917	60°·5	10·7	77 %	0·73
1918	59°·6	17·2	79 %	0·28
1919	58°·7	7·3	77 %	0·30
1920	56°·9	12·4	83 %	0·32
1921	61°·4	6·8	75 %	0·75

In my opinion, the continued reduction of the annual wave of epidemic diarrhoea depends on the measure of success achieved in reducing the production of flies, no light task. The further depression of diarrhoea depends on many factors, the chief being the education of the mother by the Maternity and Child Welfare Staff in the feeding and general care of young children. The figures for infant mortality indicate that breast feeding is not yet sufficiently carried out.

MALARIA.

By DR. W. A. YOUNG.

The number of cases of malaria notified during 1921 was 38. The notifications came from the following sources :—

Medical Practitioners	The Ministry of Pensions through the Ministry of Health
38	Nil
38	

Six of the above cases had been previously notified either in 1920 or in 1919.

Four cases were male patients who had contracted the disease when living abroad, whilst 34 were ex-service men who had served overseas and had received treatment for this complaint when in the army. The ex-service men were stated to have become infected whilst serving in the following countries :—

Macedonia	...	...	...	...	...	...	10
India	...	...	...	...	...	...	7
Mesopotamia	...	...	...	...	...	...	5
Egypt	...	...	...	...	...	...	3
S. W. Africa	...	...	...	...	...	...	1
E. Africa	...	...	...	...	...	...	1
S. Africa	...	...	...	...	...	...	1
Gallipoli	...	...	...	...	...	...	1
Persia	...	...	...	...	...	...	1
Palestine	...	...	...	...	...	...	1
Belgium	...	...	...	...	...	...	1
France	...	...	...	...	...	...	1
S. Russia	...	...	...	...	...	...	1
							34
							34

Five of the 38 cases received treatment in hospital, the remainder staying at home under the care of the family doctor.

The Ministry of Pensions continue to examine and treat, at their tropical diseases clinic, all ex-service men known to be suffering from malaria.

No case of malaria was notified in which there was any suspicion that the disease had been contracted in this country.

In addition to the cases notified there were three in which malaria appeared as a cause of death. In one case, an ex-soldier who had contracted the disease in Mesopotamia, death was attributed to malaria, and in the second and third cases, both ex-soldiers who had contracted the disease in Macedonia, death was ascribed to malaria and pulmonary tuberculosis.

DYSENTERY.

BY DR. W. A. YOUNG.

Eight cases of dysentery were notified during the year. Of the eight notifications three notifications were withdrawn after investigation in Monsall hospital.

All the cases were notified by medical practitioners.

The five dysentery cases notified were all ex-service men who had received treatment for this disease while in the service. Four of them had not been previously notified. All of them received treatment in hospital, three in the hospital for tropical diseases controlled by the Ministry of Pensions and run in conjunction with the tropical diseases clinic, one in Monsall fever hospital, and one in the Manchester Royal Infirmary.

Of these cases two died.

With the exception of one man who is a hawker of fruit, none of the above cases are concerned with the preparation or handling of food.

In addition to the above, two schoolboys, natives of Bagdad, were taken into Monsall Hospital for examination, as they were stated to be carriers of dysentery. They were discharged after the stools had been examined and found negative on two separate occasions.

During the year the 15 known cases of dysentery and the 20 carriers have been visited every four months, and the health of the other members of their families has been investigated. The investigation has not, so far, revealed any suspicious symptoms among the members of the patient's or carrier's family or among his workmates.

There were no cases of dysentery among children notified during the year.

TRENCH FEVER.

BY DR. W. A. YOUNG.

One case of trench fever was notified during the year. The patient was in the army, and while serving in France in 1916, was removed to hospital suffering from this disease. He recovered, and remained well until January, 1918, when he had a relapse, and was treated in a military hospital on Salisbury Plain. Since then he has had two slight relapses, both during this year.

The only symptoms complained of during the last two attacks have been severe headache and aching in both legs.

He was treated by his own medical attendant at home, where he was well isolated. No other members of the household complained of symptoms simulating the disease. The house was very clean, and there was no evidence of the presence of lice or other vermin.

VENEREAL DISEASES.

BY DR. W. A. YOUNG.

The scheme for the treatment of venereal diseases which was adopted by the Council in April, 1917, is on the lines indicated in the memorandum published by the Local Government Board in July, 1916, and was fully explained in the Annual Report of 1920.

EXTENT TO WHICH THE SCHEME HAS BEEN DEVELOPED.

Approved Treatment Centres.

There are five Approved Treatment Centres in Manchester and one in Salford. At the Manchester Centres 17 male and 21 female Clinics are held each week. The days and hours of the Clinics at the five Centres are shown in the attached table. Intermediate treatment for male and female patients is given each week-day at St. Luke's Hospital, from 10 a.m. to 5 p.m., and at St. Mary's Hospital, where females only are treated, this treatment is given on one night each week. In addition to these approved treatment Centres, one prematernity Clinic is held at two of the Child Welfare Centres each week, where mothers and their babies suffering from venereal diseases are examined and receive treatment.

Auxiliary Centres.

The Auxiliary Centre for females at Monsall Hospital which was opened in April last year has proved a very successful centre. No progress was made during the year in regard to the establishment of an auxiliary Centre for males at St. Luke's Hospital, where with existing facilities, many cases have been dealt with by the orderlies.

INSTITUTION	Day and Hour of Attendance	INSTITUTION	Day and Hour of Attendance
ROYAL INFIRMARY, OXFORD ROAD, MANCHESTER	<p><i>Skin Clinic</i>— Thursday ...11 a.m. (females and children) Wednesday ...6 p.m. (males)</p> <p><i>Genito-Urinary Clinic</i>— Wednesday ...11 a.m. (females and children) Thursday ...6-0 p.m. (males)</p> <p><i>Skin and Genito-Urinary Clinic</i>— Monday... ...6 p.m. (males) Thursday ...9 a.m. (females and children)</p> <p>Dr. F. E. Tylecote, M.D., M.R.C.P. Mr. A. Wilson, L.R.C.P., F.R.C.S. <i>Assistant Medical Officer</i>— J. Holker, M.Sc., M.B., Ch.B. (Vict.)</p>	<p>SALFORD ROYAL HOSPITAL, CHAPEL STREET, Salford</p> <p><i>Skin Department</i>— Monday... ...12-0 noon (males) Thursday ...6-0 p.m. (males) Wednesday ...6-0 p.m. (females)</p> <p><i>Special Genito-Urinary Clinic</i>— Tuesday ...12-0 noon } (males and females) Friday ...6-0 p.m. } (females) Dr. Robert Gibson, M.D., Ch.B. (Edin.). Mr. J. Barlow Macalpine, M.B., Ch.B. (Vict.), F.R.C.S.</p> <p><i>Clinical Assistants</i>— Dr. Wm. Elwood, M.B., Ch.B. (Aberdeen) Dr. J. Ghosh, F.R.C.S.I., D.P.H. (Dublin)</p>	<p>ANCOATS HOSPITAL, MILL STREET, ANCOATS, MANCHESTER</p> <p><i>Skin Diseases</i>— Wednesday ...11-30 a.m. (females) Wednesday and Saturday } 5-30 p.m. (males)</p> <p><i>Genito-Urinary Diseases</i>— Wednesday ...11-30 a.m. (females) Wednesday and Saturday } 5-30 p.m. (males)</p> <p>Dr. W. J. S. Reid, M.D. Dr. Whitehead, M.B., Ch.B. Dr. L. Anderson Wilson, M.B. (Toronto) <i>Assistant Medical Officers</i>— Dr. W. B. Douglas Drummond, M.B., Ch.B. (Glas.) Dr. S. E. Critchley, M.B., Ch.B. (Vict.)</p>
HOSPITAL FOR SKIN DISEASES, QUAY STREET, MANCHESTER	<p><i>Skin Clinic only</i>— Daily except Sunday— For men ...9-0 to 10-0 a.m. For women and children— 9-0 to 11-0 a.m.</p> <p>Dr. G. H. Lancashire, M.R.C.S., L.R.C.P. Dr. L. Savatard, L.S.A. (Lond.) Dr. W. Dyson, M.D. Dr. R. Gibson, M.D.</p>	<p>ST. LUKE'S HOSPITAL, DUKE STREET, LIVERPOOL ROAD, MANCHESTER</p> <p>Monday... } 5 to 7 each evening Tuesday } (males and females) Thursday } Friday ... Wednesday ...5 to 7 p.m. (females only) Daily (Sundays excepted) for irrigation— 10 a.m. to 5 p.m. Mr. A. Wilson, L.R.C.P., F.R.C.S. Dr. W. J. S. Reid, M.D. <i>Clinical Assistant</i>— Dr. Elizabeth Byrd, M.B., Ch.B. (Vict.)</p>	<p>ST. MARY'S HOSPITAL, WHITWORTH STREET</p> <p>Females only— Monday... } Tuesday } 9-0 to 10-30 a.m. Wednesday } Thursday } Friday ... Thursday ...5-0 to 7-0 p.m. Tuesdays ...Intermediate treatment by nurse, 7 to 8 p.m. Dr. F. H. Lacey, M.D.</p>

Early Treatment Centres.

Two Early Treatment Centres have been in operation during the year.

At these Centres facilities are afforded to men for the carrying out of early treatment under the supervision of a trained attendant, who is prepared to perform the operation if requested to do so.

This treatment is free.

The conditions under which treatment is given are as follows :—

- (1) That the exposure to infection must have taken place within 12 hours.

NOTE.—It was pointed out in the posters relating to these Centres that treatment could not be relied upon if delayed for more than 2 hours.

- (2) That there are no signs of venereal disease.

NOTE.—Any cases with suspicious signs or symptoms presenting themselves for treatment are immediately referred to approved treatment Clinics.

The work carried out at the Centres during the year will be considered later.

MEDICAL PRACTITIONERS AND THE SCHEME.

All members of the medical profession in the City have been repeatedly advised of the facilities offered for the diagnosis and treatment of venereal diseases. Early in the year a revised circular was sent to all medical practitioners in Manchester, and in this circular the arrangements under the Manchester scheme are given in detail under the following heads :—

- (1) Provision of laboratory facilities for diagnosis.
- (2) Treatment Centres and Clinics.
- (3) Supply of Salvarsan or its approved substitutes.
- (4) The Auxiliary Centre for females.
- (5) Copies of forms of printed instructions to medical practitioners patients, and the public generally.

Arrangements for Examination of Pathological Specimens.

Professor Dean at the Pathological Laboratory of the University of Manchester has carried out the Wassermann Reactions and the examination of discharges, etc., for the presence of the spirochæta pallida and the gonococcus for all medical

practitioners who wished to have their patients examined. At the Royal Infirmary the microscopical examination of discharges is conducted by a trained microscopist who attends during the clinic hours, but the Wassermann Tests are sent to Professor Dean.

At St. Mary's Hospital and St. Luke's Hospital, Professor Dean is responsible for the Wassermann tests, but at Ancoats Hospital and the Skin Hospital, the hospital pathologist conducts all the pathological examinations.

Publicity.

As mentioned previously, medical practitioners were notified by circular letter of all arrangements made, and at the same time copies of the various forms to be used were enclosed.

Posters giving the names and addresses of Approved Treatment Centres with the days and hours when Clinics are held are displayed in the public conveniences in the City.

The Manchester and Salford Branch of the National Council for combating venereal diseases continues to organise lectures and addresses. Its work for the year will be described later.

SUMMARY OF WORK DONE UNDER THE VENEREAL DISEASE SCHEME DURING THE YEAR 1921.

(A) APPROVED TREATMENT CENTRES.

The improvement in preparing and rendering the Quarterly and Annual Returns has been maintained during the year.

The information obtained from these returns is shown in the following tables.

The number of new cases presenting themselves at the five Centres was 5,078 compared with 5,942 during 1920. The maximum was reached in the first quarter, but fell during the year to the last quarter (table I.).

The number of new cases suffering from syphilis and gonorrhœa presenting themselves at the Centres was 2,138 and 1,744 respectively (table III.), compared with 2,526 and 2,037 during 1920, and 2,711 and 1,992 during 1919. This year's figures show a decrease of 388 syphilis cases and 293 gonorrhœal cases, the decrease being most marked among patients coming from Manchester.

It will be seen that the number of syphilis patients continues to exceed the number of gonorrhœal cases, although the latter condition is generally accepted to be the more common complaint. The army estimate of the relative frequency of gonorrhœa and other venereal diseases is given as $2\frac{1}{2}$ to 1.

Among the syphilis patients the proportion of male to female patients still remains about 2 to 1 for Manchester cases, and about 5 to 3 for the cases from other districts. The disproportion is marked at all of the Centres with the exception of the Skin Hospital (Table II.).

TABLE II.

CLASSIFICATION ACCORDING TO SEX.—NEW CASES, YEAR 1921.

Syphilis and Gonorrhœa only.

Name of Clinic	MANCHESTER				OTHER DISTRICTS			
	Syphilis		Gonorrhœa		Syphilis		Gonorrhœa	
	M.	F.	M.	F.	M.	F.	M.	F.
Manchester Royal Infirmary ...	330	162	390	40	127	54	100	10
Ancoats Hospital	242	109	237	20	120	15	75	11
Hospital for Skin Diseases	106	127	36	3	154	149	39	2
St. Luke's Hospital	166	36	417	37	94	45	223	25
St. Mary's Hospital .....	...	68	...	64	...	34	...	15
	844	502	1080	164	495	297	437	63
	1346		1244		792		500	

Among the gonorrhœal cases the proportion of males to females is about 7 to 1 for cases from Manchester, and the same for the cases from outside districts.

These figures are still disappointing considering the special arrangements made for the investigation and treatment of female patients in Manchester but as mentioned last year there seems little hope of improvement till young girls and women are taught to regard all vaginal discharges as a matter requiring special investigation.

Table III. gives a summary of the work done at the five Approved Centres.

TABLE I.—NEW CASES.

SHOWING THE NUMBER OF NEW CASES PRESENTING THEMSELVES AT THE VENEREAL DISEASE CENTRES DURING THE YEAR 1921.

Period	Manchester Royal Infirmary				Ancoats Hospital				Manchester and Salford Hospital for Skin Diseases				St. Luke's Hospital				St. Mary's Hospital, Whitworth Street				Total No. of New Cases at the five Centres each Quarter (All Cases)
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	* G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	
Quarter ending March 31st—																					
Manchester Cases	132	1	104	27	123	...	85	71	80	5	7	8	69	24	120	68	20	...	9	29	
All Cases	182	1	135	37	152	...	109	82	156	7	18	30	110	39	200	118	31	...	10	38	
	355				343				211				467				79				= 1,455
Quarter ending June 30th—																					
Manchester Cases	130	2	96	20	97	...	67	55	45	...	12	7	41	22	117	47	12	...	18	32	
All Cases	180	2	120	28	134	...	98	73	135	1	23	19	78	28	172	83	17	...	22	52	
	330				305				178				361				91				= 1,265
Quarter ending Sept. 30th—																					
Manchester Cases	112	6	122	26	74	...	52	51	57	...	10	14	44	20	112	48	19	2	21	36	
All Cases	144	6	152	29	104	...	74	69	135	4	21	27	75	27	168	74	27	2	27	46	
	331				247				187				344				102				= 1,211
Quarter ending Dec. 31st—																					
Manchester Cases	118	1	108	15	57	...	53	53	51	...	10	19	48	17	105	60	17	...	16	28	
All Cases	167	1	133	19	96	...	62	69	110	...	18	35	78	26	162	90	27	...	20	34	
	320				227				163				356				81				= 1,147
Total for year ending Dec. 31st, 1920—																					
Manchester Cases	492	10	430	88	351	...	257	230	233	5	39	48	202	83	454	223	68	2	64	125	
All Cases	673	10	540	113	486	...	343	293	536	12	80	111	341	120	702	365	102	2	79	170	
	1,336				1,122				739				1,528				353				= 5,078

* Transferred to other Centres

Sy.=Syphilis.

S.C.=Soft Chancre.

G.=Gonorrhoea.

Not V.D.=Not Venereal Disease.



TABLE III.—TABLE SHOWING THE WORK DONE AT THE FIVE APPROVED TREATMENT CENTRES DURING THE YEAR 1921.
(MANCHESTER CASES SHOWN SEPARATELY.)

PARTICULARS	MANCHESTER ROYAL INFIRMARY				ANCOATS HOSPITAL				HOSPITAL FOR SKIN DISEASES				ST. LUKE'S HOSPITAL				ST. MARY'S HOSPITALS				TOTAL OF ALL CASES FOR THE YEAR			
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	* G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.
New Cases—																								
Manchester Cases	492	10	430	88	351	—	257	230	233	5	39	48	202	83	454	223	68	2	64	125	2,138	144	1,744	1,052
All Cases	673	10	540	113	486	—	343	293	536	12	80	111	341	120	702	365	102	2	79	170				
Cases discharged after completion of treatment—																					5,078			
Manchester Cases	201	3	122	—	117	—	101	—	40	6	—	2	28	30	117	—	1	—	10	—	596	53	475	5
All Cases	318	4	158	—	134	—	122	—	85	12	—	5	58	37	180	—	1	—	15	—				
Cases ceasing to attend Clinic—																								
(A) Before completing treatment—																								
Manchester Cases	90	—	194	—	99	—	92	—	79	—	—	—	124	68	285	—	27	—	19	—	647	94	813	—
All Cases	135	—	241	—	120	—	98	—	151	—	—	—	199	94	452	—	42	—	22	—				
(B) After completing treatment, but before final tests—																								
Manchester Cases	68	—	75	—	134	—	68	—	93	—	—	—	65	—	61	—	—	—	—	—	520	—	291	—
All Cases	90	—	107	—	139	—	94	—	204	—	—	—	87	—	90	—	—	—	—	—				
(C) Transferred to other treatment Clinics—																								
Manchester Cases	35	—	28	—	5	—	2	—	34	—	—	—	7	1	9	—	6	—	3	—	165	1	71	—
All Cases	50	—	50	—	7	—	3	—	79	—	—	—	21	1	14	—	8	—	4	—				
Attended for Wassermann test only	—	—	—	—	—	—	—	—	45	—	—	—	—	—	—	—	—	—	—	—	45	—	—	—
Attendances at the Out-patient Clinic—																								
Manchester Cases	6,798	28	4,302	155	5,451	—	3,213	442	6,304	9	39	91	3,228	401	4,568	493	1,088	16	842	383	37,365	590	17,780	2,337
All Cases	9,724	32	5,712	219	7,001	—	4,300	637	13,742	29	80	211	5,261	513	6,834	734	1,637	16	854	536				
Intermediate treatment	—	—	—	—	—	—	—	—	—	—	—	—	436	814	12,120	—	—	—	206	—	58,072			
																					436	814	12,326	
																					13,576			
In-patient days—																								
Manchester Cases	190	—	—	—	43	—	29	—	14	—	—	—	1,515	386	2,794	129	—	—	—	—	3,942	465	5,334	129
All Cases	294	—	—	—	43	—	29	—	107	—	—	—	3,498	465	5,305	129	—	—	—	—				
Doses of Salvarsan Substitute given—																								
Manchester Cases	1,677	—	—	—	2,012	—	—	—	812	—	—	—	1,508	—	—	—	559	—	—	—	9,994	—	—	—
All Cases	2,208	—	—	—	2,527	—	—	—	1,814	—	—	—	2,609	—	—	—	836	—	—	—				
Psychological Examinations made—																								
A. (Centre)—	Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.		Wass.	Spir.	Gon.	
Manchester Cases	—	99	575		891	—	715		630	31	—		—	43	451		—	—	326		2,550	251	2,750	
All Cases	—	125	739		1,124	—	876		1,425	63	—		—	63	685		—	—	450					
B. (Professor Dean)—																								
Manchester Cases	883	—	—		—	—	—		—	—	—		720	—	—		267	3	—		2,796	3	—	
All Cases	1,229	—	—		—	—	—		—	—	—		1,188	—	—		379	3	—					
TOTAL																					5,346	254	2,750	

Sy. = Syphilis. S.C. = Soft Chancre. G. = Gonorrhoea. Not V.D. = Not Venereal Disease. * Transferred to other Treatment Centres.

Compared with last year's Table V., the following points may be emphasised :—

(1) The decrease in new cases has already been noted.

(2) Cases discharged after completion of treatment.

(a) Syphilis. Fewer syphilitic patients have been discharged this year.

Further, it may be noted that, as in former years, in proportion to the size of the Clinics, the number of syphilitic patients discharged at the Royal Infirmary (318) is greater than at any of the other Centres, whereas at the Skin Hospital the number is smaller than at any of the hospitals with the exception of St. Mary's Hospital. At the Skin Hospital, treatment is spread over a longer period, and the patients are kept under observation for a year or two before being discharged.

(b) Gonorrhœa. The number of gonorrhœal patients discharged after treatment is 475, being a little less than one-third of the new cases, and is an improvement on last year's figures.

(3) Cases ceasing to attend Clinic before completing a course of treatment. Here, as in the returns for 1920, the figures are most discouraging.

(a) Syphilis patients, 647. This is just under one-third of the total new patients.

(b) Gonorrhœa patients, 813. This represents about one-half of the new patients.

These figures differ very little from the figures for the whole of England published in the Report of the Chief Medical Officer of the Ministry of Health for the year 1920.

(4) The total attendances at the Clinics is shown as 58,080, but in addition there were 13,370 attendances at St. Luke's Hospital for intermediate treatment, and 206 attendances at St. Mary's Hospital for the same purpose, making in all 71,656 attendances for the year.

(5) There has been less "in-patient" treatment this year at all of the Centres except at St. Luke's Hospital, where there has been a slight increase.

(6) Pathological examinations. There were fewer Wassermann tests carried out this year, but there were more examinations for the presence of gonococci.

In order to ensure continuity of treatment, patients who discontinue attending the Clinics are written to and urged to return to the Clinic. The following Table shows the results of this procedure.

TABLE IV.

Name of Hospital	MANCHESTER ROYAL INFIRMARY	ANCOATS HOSPITAL	SKIN HOSPITAL	ST. LUKE'S HOSPITAL	ST. MARY'S HOSPITAL	TOTALS
Number of letters sent ...	1,270	57	444	None sent	287	2,038
<i>Results :—</i>						
(1) No reply	635	10	175	—	207	1,027
(2) Wrong addresses (letter returned)	—	5	24	—	—	29
(3) Replied "under own doctor"	6	—	28	—	2	36
(4) Replied "other causes for absence"	54	—	16	—	14	84
(5) Returned and still attending	250	30	112	—	28	420
(6) Returned for a period only	35	9	50	—	17	111
(7) Returned and then transferred to other Centres	80	3	10	—	2	95
(8) Returned and discharged	210	—	29	—	17	256
	1,270	57	444	—	287	2,058

At the 5 Centres there were 11 cases which showed "ill-effects" after injections of Salvarsan substitutes, 9 presenting signs and symptoms of toxæmic jaundice, and 2 of typical dermatitis. All of the cases recovered under treatment.

WORK DONE AT THE PRE-MATERNITY CLINICS DURING THE YEAR.

CHILD WELFARE CENTRES.

45, Higher Ardwick, and 40 and 42, Lower Moss Lane.

TABLE V.—NEW CASES.

45, Higher Ardwick						40 and 42, Lower Moss Lane								Total for 2 centres			
Sy.		S.C.		G.		Not V.D.		Sy.		S.C.		G.				Not V.D.	
Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children	Adults	Children
2	13	0	0	3	0	20	43	11	9	0	0	4	1	30	29	80	95
}		}		}		}		}		}		}		}		}	
25		0		3		63		20		0		5		59		175	

TABLE VI.

TABLE SHOWING THE WORK DONE AT EACH CENTRE DURING 1921.

(Taken from Quarterly Returns.)

[illegible]

Higher Ardwick Centre.

Of the 25 new cases suffering from syphilis, 13 were infants, of whom 5 died ; 3 from intercurrent diseases, and 2 from congenital syphilis. The mothers of the 2 children with congenital syphilis had not been under treatment, nor had the children undergone a course of treatment.

Twelve pregnant women received treatment during the period of gestation. In 4 of them the babies are not yet born, but in 6 instances the children were born with no signs of specific disease and with negative Wassermann reactions ; the remaining 2 women gave birth to children showing no apparent signs of syphilis, but the Wassermann reaction has not yet been performed.

Lower Moss Lane Centre.

Of the 20 new cases suffering from syphilis, 9 were infants.

Four pregnant women received treatment during the period of gestation and were delivered of live babies, only 1 of them giving a positive Wassermann reaction.

At both Centres patients who discontinue attendance before treatment is complete are visited at their homes by the Superintendent of the Child Welfare Centres and are induced to return to the Clinics.

In Table VII. there is a summary of the work done at all of the treatment Clinics, including Child Welfare Centres, and the total figures for 1921 are compared with the corresponding figures for 1920.

AUXILIARY CENTRE FOR FEMALES AT MONSALL HOSPITAL.

TABLE VIII.—SHOWING NUMBER OF PERSONS TREATED AT THE CENTRE DURING 1921.

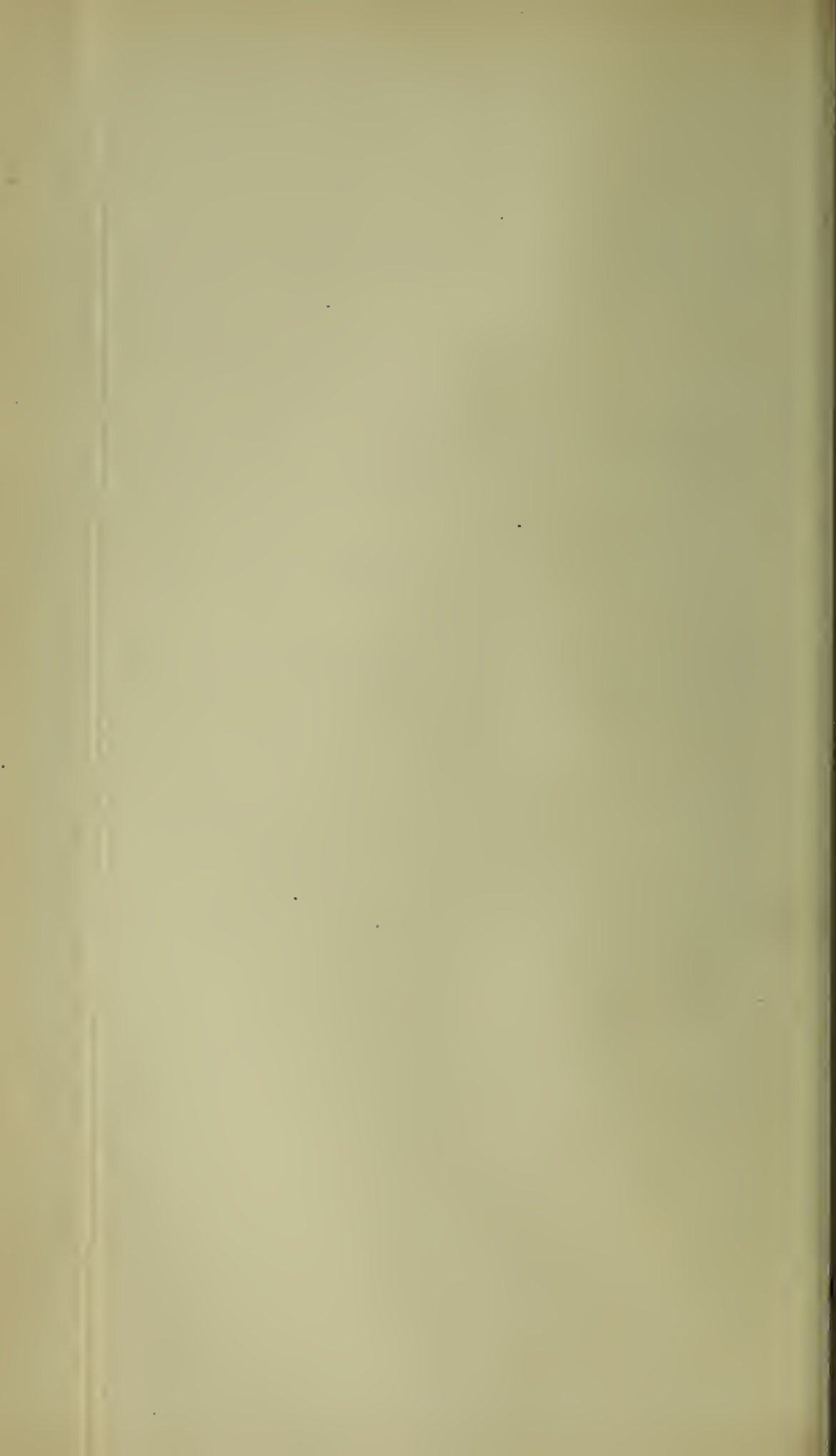
PARTICULARS	Syphilis	Gonorrhœa	Syphilis and Gonorrhœa	TOTAL
1. On books January 1st, 1921... ..	—	23	—	23
2. New Cases—				
(a) Name of Clinic from which patients came—				
Ancoats Hospital	—	32	8	40
Manchester Royal Infirmary..	—	1	1	2
St. Mary's Hospital	—	1	—	1
Child Welfare Centres	—	6	—	6
(b) Cases referred to the Centre by Medical Practitioners	—	2	—	2
	—	65	9	74
3. Discharged Cured—				
(a) { Ancoats Hospital	—	10	1	11
St. Luke's Hospital	—	1	—	1
Manchester Royal Infirmary..	—	—	1	1
Child Welfare Centres	—	1	—	1
(b) Medical Practitioners	—	—	—	—
	—	12	2	14
4. Discontinued Attendance	—	28	—	28
5. Discharged Cured and Discontinued	—	40	2	42
6. Number remaining on books on January 1st, 1922	—	25	7	32

TABLE VII.—SHOWING THE WORK DONE AT FIVE VENEREAL DISEASE CLINICS AND AT TWO CHILD WELFARE CENTRES DURING THE YEAR 1921.

PARTICULARS	MANCHESTER ROYAL INFIRMARY				ANCOATS HOSPITAL				HOSPITAL FOR SKIN DISEASES				ST. LUKE'S HOSPITAL				ST. MARY'S HOSPITAL				CHILD WELFARE CENTRE, HIGHER ARDWICK				CHILD WELFARE CENTRE, LOWER MOSS LANE				TOTALS FOR THE YEAR				GRAND TOTALS—ALL CASES (Compared with corresponding figures for 1920)							
	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	*G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.	Sy.	S.C.	G.	Not V.D.								
New Cases— All Cases	673	10	540	113	486	—	343	293	536	12	80	111	341	120	702	365	102	2	79	170	25	—	3	63	20	—	5	59	2,183	144	1,752	1,174	1921 5,253	1920 6,060						
Cases discharged after completion of treatment— All Cases	318	4	158	—	134	—	122	—	85	12	—	5	58	37	180	—	1	—	15	—	—	—	—	66	—	—	—	59	596	53	475	130	1,254	1,224						
Cases ceasing to attend Clinic— (A) Before completing treatment— All Cases	135	—	241	—	120	—	98	—	151	—	—	—	199	94	452	—	42	—	22	—	5†	—	—	—	3	—	—	—	655	94	813	—	1,562 817 240 2,619	2,192 913 316 3,421						
(B) After completing treatment, but before final tests: All Cases	90	—	107	—	139	—	94	—	204	—	—	—	87	—	90	—	—	—	—	—	—	—	—	6	—	—	—	526	—	291	—									
(C) Transferred to other Treatment Clinics— All Cases	50	—	50	—	7	—	3	—	79	—	—	—	21	1	14	—	8	—	4	—	1	—	—	—	2	—	—	—	168	1	71	—								
Attended for Wassermann Test only	—	—	—	—	—	—	—	—	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	45	—	—	—	45	65						
Attendances at the Out-patient Clinic— All Cases	9,724	32	5,712	219	7,001	—	4,300	637	13,742	29	80	211	5,261	513	6,834	734	1,637	16	1,060	536	537	—	52	130	349	—	89	114	38,251	590	18,127	2,581	59,549 + 13,370 Intermediate treat- ment at St. Luke's } 72919	61,188 + 10,374 Intermediate treat- ment at St. Luke's } 71562						
In-patient Days— All Cases	294	—	—	—	43	—	29	—	107	—	—	—	3,498	465	5,305	129	—	—	—	—	—	—	—	—	—	—	—	—	3,942	465	5,334	129			9,870	10,098				
Doses of Salvarsan Substitutes given— All Cases	2,208	—	—	—	2,527	—	—	—	1,814	—	—	—	2,609	—	—	—	836	—	—	—	270	—	—	—	161	—	—	—	10,425	—	—	—	10,425	11,490						
Pathological Examinations made— A. (Centre)— All Cases	Wass. —	Spir. 125	Gon. 739	—	Wass. 1,124	Spir. —	Gon. 876	—	Wass. 1,426	Spir. 63	Gon. —	—	Wass. —	Spir. 63	Gon. 685	—	Wass. —	Spir. —	Gon. 450	—	Wass. —	Spir. —	Gon. —	—	Wass. —	Spir. —	Gon. —	—	Wass. 2,550	Spir. 251	Gon. 2,750	—	Wass. 2,550	Spir. 251	Gon. 2,750	Wass. 2,610	Spir. 219	Gon. 2,452		
B. (Professor Dean)— All Cases	1,229	—	—	—	—	—	—	—	—	—	—	—	1,188	—	—	—	379	3	—	—	87	—	11	—	100	—	28	—	2,933	3	39	—	2,983	3	39	3,519	1	10		
																																			5,533	254	2,789	6,129	220	2,462

* Gonorrhoea Cases Transferred to Other Centres.

† 5 Died.



The total number of attendances of all patients was 3,279, an average of 44 attendances per case. Thirty patients attended on more than 50 occasions for treatment.

Three-hundred-and-twenty-five Sitz baths were given.

Fourteen patients were discharged after completing treatment.

Twenty-eight patients discontinued attendance during the year. This was mainly on account of the patients inability to pay their tram fares owing to the large amount of unemployment.

As the number of new patients is growing gradually, and as the average attendance per case is so much higher than at the treatment Clinics generally, the Centre fully justifies itself.

EARLY TREATMENT CENTRES.

1. Great Bridgewater Street .. January 1st, 1921, to December 31st, 1921.

2. Victoria Street January 1st, 1921, to December 31st, 1921.

Since February 15th, 1921, these Centres have not been advertised.

TABLE SHOWING THE NUMBER OF PERSONS WHO RECEIVED TREATMENT, THE NUMBER REFUSED TREATMENT AND REFERRED TO TREATMENT CLINICS, AND THE NUMBER OF PERSONS WHO CAME TO MAKE ENQUIRIES ABOUT THE CENTRES, ETC.

Name of Centre	Recently Exposed to Infection and Treated	Not Treated. Referred to Treatment Clinic	Enquiries and Explanations	Total
Great Bridgewater Street	4,051	220	62	4,353
Victoria Street ..	3,017	66	730	3,813
Total ..	7,068	286	792	8,146

During the year 7,068 persons received treatment at the Centres, and 286 were refused treatment and referred to treatment Clinics in the City—256 because they showed signs of possible infection, and 30 because they presented themselves for treatment after too long an interval since the time of exposure to infection. The time limit within which treatment will be given is 12 hours. All persons who present themselves for treatment after 12 hours has elapsed since exposure are urged to seek medical advice at once in the event of any unusual symptoms appearing.

On the 7,068 occasions when treatment was carried out, the length of time intervening between exposure to infection and the time of treatment has been examined, and they have been classified as follows :—

Particulars	Gt. Bridgewater Street	Victoria Street
Treatment given within 2 hours after exposure	2,954 = 72·92%	2,489 = 82·50%
Treatment given 2 hours and over, but under 6 hours after exposure	910 = 22·46%	496 = 16·44%
Treatment given 6 hours and over, but under 12 hours after exposure	170 = 4·20%	30 = ·99%
Treatment given 12 hours and over, but under 24 hours after exposure	17 = ·42%	2 = ·07%
Total	4,051	3,017

Of the total number of persons who made 7,278 attendances at the treatment Centres during the period January 7th to December 31st, 1921, when their ages were recorded, only 73 patients were under the influence of alcohol, and the following is an analysis of the ages of the patients who received treatment :—

Centre	Under 20	20-25	25-30	30-35	35-40	40 and over	Total
Gt. Bridgewater St.	2*	737	1,788	840	610	245	4,222
Victoria Street ..	10†	623	1,727	512	174	10	3,056
Total :—							
Both Centres ..	12	1,360	3,515	1,352	784	255	7,278
Percentage	·16	18·68	48·29	18·57	10·77	3·53	—

* 1 aet 18 years referred to Treatment Clinic in the City; 1 aet 19 years.

† 1 *aet* 16 (a hawker); 1 *aet* 18; 8 *aet* 19.

As certain patients showed signs of sickness and fainting before or during the disinfection, it was found necessary to supply Salvolatile at both Centres. During the twelve months this restorative has been used on 36 occasions. On 15 of these occasions the patient actually fainted.

The following Table shows the towns, etc., from which the patients who received treatment during the year came :—

Manchester	...	...	...	...	...	...	...	5,868
Salford	...	...	...	...	...	...	...	542
London	...	...	...	...	...	...	...	78
Bolton	...	...	...	...	...	...	...	32
Southport	...	...	...	...	...	...	...	29
Liverpool	...	...	...	...	...	...	...	29
Stretford	...	...	...	...	...	...	...	27
Stockport	...	...	...	...	...	...	...	26
Sale	...	...	...	...	...	...	...	19
87 countries, counties, towns, etc., with less than 15 attendances each	...	...	...	...	...	...	...	418
								7,068

Since the commencement of the work, notes have been taken of 15 cases who appear to have been protected by the methods adopted at the Early Treatment Centres.

So far there is no proof that the Centres have in a single instance failed to protect. Enquiries have been made at three of the treatment Clinics where gonorrhœa is treated, and where it is particularly noted whether early treatment has been carried out or not, and I am informed that no case has sought treatment for either gonorrhœa or syphilis after receiving early treatment.

The expenditure incurred has been :—

	Gt. Bridgewater St.	Victoria Street
	4,051 cases treated	3,017 cases treated
<i>A.—Initial cost—</i>		
	£ s. d.	£ s. d.
Alterations, etc.	17 10 9	17 0 5
Equipments, Instruments, etc.	3 16 5	4 3 3
	£21 7 2	21 3 8
<i>B.—Maintenance—</i>		
(1) Wages and bonus	232 7 7	232 7 7
Loss of receipts	20 0 0	—
Extra cost of lighting	29 0 0	29 0 0
Attendants' clothing	8 10 0	8 10 0
Extra water	2 0 0	2 0 0
	291 17 7	271 17 7
(2) Cost of drugs used for treatment of 2,898 and 569 cases respectively	14 1 5	15 1 4½
	£305 19 0	286 18 11½
Excluding the initial cost of £21, the cost per treatment at each Centre works out as follows :—		
1. Maintenance	17·29d.	21·66d.
2. Drugs used	·83d.	1·19d.
	18·12d.	22·85d.
Total cost per treatment	1/6	1/10

Compared with the cost of treating venereal diseases at the five approved Clinics in the City, where during 1921 the average cost per attendance worked out at 4s. 10d., the cost of disinfection at the Early Treatment Centres is low, and will be lower still if the numbers increase, as they are tending to do.

MEDICAL PRACTITIONERS UNDER THE SCHEME.

At the end of 1920 there were 36 medical practitioners in Manchester who were qualified to receive Salvarsan substitutes free of cost.

During the year 1921 three practitioners were added to the list and one was removed, leaving 38 on the list on December 31st, 1921.

The attendance of medical practitioners at the Treatment Clinics during the year was only moderate, as will be seen from the table below :—

Particulars	Manchester Royal Infirmary	Ancoats Hospital	Skin Hospital	St. Luke's Hospital	St. Mary's	Total
Number of Medical Practitioners attending Clinic	A few	18	7	Nil	2	27
Number of attendances..	5 or 6	70	73	Nil	8	157

During the year three medical practitioners attended the course on venereal diseases arranged by the University of Manchester, and after attending the Clinics, they were granted certificates of proficiency.

Since the commencement of these courses in 1920, 17 practitioners have been granted certificates.

The quantity of Salvarsan substitutes issued by the Medical Officer of Health during the year is seen in the table below :—

TABLE IX.

QUARTER ENDING	DOSES ISSUED TO				TOTAL FOR EACH QUARTER
	Medical Practitioners	H.M. Prison Strangeways	Two Child Welfare Centres	Institutions other than Approved Centres	
March 31st ...	727	371	160	—	1,258
June 30th ...	683	306	154	—	1,143
September 30th	579	265	110	—	954
December 31st..	462	186	90	34	772
Total for 1921	2,451	1,128	514	34	4,127

TABLE X.

Quarter ending	Outfits issued to														Total for Quarter	
	Medical Practitioners		Institutions other than Approved Centres		Public Health Dept. (Ophthalmia Neonatorum)		St. Luke's Hospital	St. Mary's Hospital		Two Maternity and Child Welfare Centres		Monsall Auxiliary Centre				
	Wass.	Micro.	Wass.	Micro.	Wass.	Micro.	Wass.	Wass.	Micro.	Wass.	Micro.	Wass.	Micro.	Wass.	Micro.	
March 31st.. .. .	231	10	24	0	0	0	384	120	10	84	12	12	0	855	32	
June 30th	230	21	70	2	0	48	300	80	0	51	0	0	0	731	71	
September 30th	173	9	48	21	0	72	264	88	0	60	6	0	0	633	108	
December 31st	205	34	38	135	0	60	240	92	0	12	12	0	0	587	241	
Total— Wassermann Outfits ..	839	—	180	—	0	—	1,188	380	—	207	—	12	—	2,806	—	
Total— Microscopical Outfits ..	—	74	—	158	—	180	—	—	10	—	30	—	—	—	452	
Total Number of Outfits issued during 1921														3,258		

This is 685 doses less than was issued during 1920.

The number of doses supplied to medical practitioners was 681 less than the number supplied last year.

The number of Manchester patients treated by 17 private practitioners during 1921 was 390, the number discharged after a full course of treatment was 198, and the number under observation at the end of the year was 180.

For the collection of specimens for examination, "outfits" were issued by the Medical Officer of Health, as follows:—

- (a) Tubes, etc., to collect material for Wassermann reactions.
- (b) Glass slides, etc., to collect material for microscopic examination.

The number of outfits issued during 1921 was 3,258 (Table X.).

This is a total of 69 outfits more than was issued during 1920, but the demand for outfits by medical practitioners was 105 less than last year.

PATHOLOGICAL WORK DONE DURING 1921.

(a) At or in connection with approved Centres (see Table III.).

(b) In connection with the outfits issued by the Medical Officer of Health and forwarded to the University Laboratory for examination.

The results are as follows:—

TABLE XI.
(1) *Wassermann Reaction.*

	Positive	Negative	Doubtful	Unsatisfactory Specimens (not examined and not included in totals)	Totals
Medical Practitioners ..	281	476	62	6	819
Institutions other than approved Centres ..	42	104	5	3	151
St. Luke's Hospital ..	382	716	90	4	1,188
St. Mary's Hospital ..	99	263	17	1	379
Two Maternity and Child Welfare Centres	59	119	9	7	187
Monsall Auxiliary Centre	1	9	0	0	10
Totals for the year ..	864	1,687	183	21	2,734

TABLE XI.—*continued.*(2) *Microscopical Examination for Gonococci.*

	Positive	Negative	Doubtful	Unsatisfactory Specimens (not examined and not in- cluded in total)	Total
Medical Practitioners ..	46	167	1	2	214
Institutions other than approved Centres ..	20	149	0	2	169
Two Maternity and Child Welfare Centres	5	34	0	0	39
Monsall Auxiliary Centre	5	33	0	0	38
Total for the year ..	76	383	1	4	460

(3) *Microscopical Examinations for Spirochata Pallida.*

	Positive	Negative	Doubtful	Unsatisfactory Specimens (not examined and not in- cluded in total)	Totals
Medical Practitioners ..	2	0	0	0	2
Institutions other than approved Centres ..	0	1	0	0	1
St. Mary's Hospital ..	1	2	0	0	3]
Two Maternity and Child Welfare Centres	0	0	0	0	0
Monsall Auxiliary Centre	0	0	0	0	0
Total for the year ..	3	3	0	0	6

PUBLICITY :—

Work of the Local Branch of the National Council for Combating Venereal Diseases.

A report giving an account of the work carried out by the branch during 1921 was published in February of this year.

The work of the Council during the year consisted chiefly in extending its propaganda work by means of lectures. The following addresses were given in Manchester and Salford :—

<i>Manchester.</i>			<i>Salford.</i>		
Medical	Social	Total	Medical	Social	Total
32	32	64	8	19	27

Of the addresses given in Manchester 22 were given in works, 22 at the schools for mothers, and the remainder to social organisations. The widespread industrial depression has been the chief cause of the fall in the number of lectures given at works, and more time has had to be spent this year in canvassing firms for permission to give lectures.

During the year lectures were given to audiences in a few of the common lodging-houses in the City.

The lectures and addresses were well attended, and apparently appreciated ; in many cases the discussion following the lectures lasted over an hour.

The list of medical lecturers consisted of 4 medical men and 4 medical women. There are also 4 lay speakers who deliver addresses on this subject.

FINANCE :—

A statement prepared by the City Treasurer shows that the total net expenditure on the scheme for the year 1921 was as follows :—

A.—Apportionable Expenditure.

	£	s.	d.
Manchester University, Department of Pathology .	421	3	1
Ancoats Hospital	2,901	2	8
Manchester and Salford Hospital for Skin Diseases	2,498	8	7
St. Luke's Hospital	4,600	5	0
Manchester Royal Infirmary	3,561	4	0
St. Mary's Hospital	1,438	12	9
Apportionable expenditure	£15,420	16	1

B.—Non-apportionable Expenditure.

	£	s.	d.
Treatment of Manchester patients by other Local Authorities	388	10	10
Salvarsan substitutes issued by Medical Officer of Health	740	15	9
Maternity and Child Welfare Centres	419	10	8
Auxiliary Centres for females	512	3	9
Early Treatment Centres	613	19	4
Publicity—Contribution to Funds of N.C.C.V.D. ..	400	0	0
Advertising, etc.	133	0	7
Administration expenses	431	9	5
	<hr/>		
	£3,639	10	4
	<hr/>		
Total expenditure for year	£19,060	6	5
	<hr/>		

Of this total, £5,378 os. 10d. has been apportioned among other local authorities, and the balance of £13,682 5s. 7d. falls to Manchester.

The Treasury continues to pay 75 per cent. of the expenses of the Venereal Diseases Scheme in Manchester.

It is a matter for regret that provision for intermediate treatment has not yet been provided at the General Hospitals. During the year attempts have been made to provide these facilities but have been unsuccessful so far.

At St. Luke's Hospital the intermediate treatment arrangements have worked very well, 13,370 attendances being recorded during the year.

No action under the Venereal Disease Act, 1917, has been taken during the year.

To the above may be added a statement of the Venereal disease work done at Crumpsall Infirmary under the Poor Law Venereal Diseases Scheme; also a summary of the Venereal disease work done in His Majesty's Prison, Strangeways, Manchester.

EXTRACT FROM A REPORT ON THE WORK DONE AT THE VENEREAL DEPARTMENT
AT THE CRUMPSALL INFIRMARY (MANCHESTER UNION) DURING THE YEAR ENDED
DECEMBER 31ST, 1921.

The Medical Officer of the Crumpsall Infirmary reports that the work at the Venereal Department has again increased during the year.

ADMISSIONS :—

Total Admissions.

	Syphilis	Soft Chancre	Gonorrhœa
Males	228	3	141
Females	325	2	134
	553	5	275

Admission of Patients from other Unions (included in above figures).

	Syphilis	Soft Chancre	Gonorrhœa
Males	84	1	36
Females	161	—	43
	245	1	79

There were 73 births, 5 still births, and 7 abortions in this department of the Infirmary during the year.

Persons Treated with Approved Salvarsan Substitutes.

	Manchester Union	Other Unions
Total number—Males	79	59
Females	96	124
	175	183

The total number of injections of Salvarsan substitutes has risen from 1,224 in 1918, 1,657 in 1919, and 2,595 in 1920 to 2,622 in 1921.

Pathological Examinations.

- (a) The number of Wassermann examinations carried out at the Manchester University totalled 968; examinations for detection of Gonococci 267, and two for the detection of Spirochætes.

STILL-BIRTHS AND ABORTIONS.

Table Showing the Number of Still-births and Abortions.

	Syphilis	Gonorrhœa
Mothers—Still-births	3	2
Abortions	7	—

With the exception of two of the above cases the mothers had no treatment prior to delivery.

SUMMARY OF WORK DONE IN CONNECTION WITH VENEREAL DISEASE IN HIS MAJESTY'S PRISON, STRANGWAYS, MANCHESTER, DURING THE YEAR 1921.

The total number of persons treated for Syphilis during 1921 was—

Males.	Females.	Total.
157	125	282

Approximately 75 per cent. of the above patients were stated to have come from Manchester.

The total number of doses of Salvarsan substitutes administered was 1,549, of which 1,209 doses were supplied by the Manchester Corporation.

The total number of persons treated for Gonorrhœa during the year was—

Males.	Females.	Total.
138	9	147

REPORT OF WORK DONE DURING 1921 UNDER THE RATS AND MICE (DESTRUCTION) ACT, 1919.

BY DR. W. A. YOUNG.

This Act has been in force since January 1st, 1920.

Investigations and inspections of rat infested premises have been carried out by the Rat Executive Officer, and during the course of this work it has been apparent that greater attention must be paid to preventive measures, *e.g.*, protection of foodstuffs, removal of refuse, and the rat-proofing of buildings.

(1) Every precaution should be taken to ensure that food is stored in rat-proof receptacles as far as is practicable.

(2) Refuse should be burnt or stored in galvanised iron bins with close fitting lids until removed to the destructor.

(3) Investigations show that buildings which are structurally defective—thereby permitting the easy entrance of rats—and providing the rats with accommodation for nesting, will, if used for storage of foodstuffs, or if there is much unprotected refuse about, continue to be rat infested, in spite of a sustained campaign of rat destruction. *It is therefore essential that suitable preventive measures should be adopted.* The importance of this work has been impressed upon all the occupiers of premises dealt with, and in most instances wherever feasible suggestions have been acted upon.

Inspections have been made of premises as a result of complaints received from the public, reports from Sanitary Inspectors, reports from Health Visitors, and premises entered by the Rat Executive Officer when dealing with adjoining property.

The routine method of dealing with a complaint is as follows:—

The premises complained of and the adjoining property are inspected to ascertain the extent of the infestation. Specifications and schemes considered necessary are drawn up and submitted to the occupiers in the form of a letter relating to the premises where rats have been found. The premises are again visited, and if no action has been taken, a report is made to the Nuisance Subcommittee, and a notice under Section 5 of the Rats and Mice (Destruction) Act, 1919, is served. In the majority of cases this notice is complied with. If, however, no action is taken within 21 days the summons is served on the occupier, and the case is then heard at the Court.

In practice here, the employment of a contractor to carry out the preventive work, and the engagement of a rat-catcher for destructive measures, is the method which has given the most satisfaction.

During the year 448 premises were visited and 631 revisits were made while the work was in progress. On inspection, no evidence was found on 104 premises, the work done on the remaining premises being as follows :—

Rat Proofing and Destruction				Destructive Measures only			
Rat-catcher and Contractor	...	...	18	Rat-catcher	...	...	17
Rat-catcher	...	...	14	Rat-catcher (yearly contract)	...	...	4
Rat-catcher and Occupier	...	...	13	Occupier	...	...	63
Rat-catcher and Owner	...	...	8				
Occupier and Contractor	...	...	29				
Occupier	...	...	25				
Owner and Contractor	...	...	5				
Owner and Occupier...	...	...	6	Mice	...	...	6
			<u>118</u>				<u>90</u>

In addition, work is in progress on 3 premises, and in 35 other instances arrangements are not yet complete, and the work is temporarily suspended.

The premises on which destructive measures only have been employed are places such as tips, railway arches, poultry runs, and buildings which are very old or of wooden construction where rat-proofing is impracticable, or the cost of proofing would be prohibitive owing to the condition of buildings.

Dwelling-houses.

Preventive and Destructive Measures				Destructive Measures only			
Rat-catcher and Owner	...	...	3	Occupiers	...	...	24
Rat-catcher and Occupier	...	...	2				
Owners and Occupiers	...	...	24				
Owners	...	...	7				
Occupiers	...	...	8	Mice	...	...	19
			<u>44</u>				<u>43</u>

Further to the above, action is being taken in 11 other instances.

As mentioned in last year's report when dealing with dwelling-houses, great difficulty is experienced in getting the occupiers to carry out the work, and in these cases we have solicited the assistance of the owners or agents of the property.

The preventive measures carried out at dwelling-houses by owners in the majority of cases can only be considered as "partial proofing," *e.g.*, repairing of structural defects, the sealing up of holes and the destroying of rat runs, etc. While this work is effective for a time, a recurrence is almost certain, as the

materials used are not always suitable for preventing rats entering the premises, and in many cases dealt with—especially in rows of cottage property—there are unused cellars or spaces beneath the ground floor to which the occupier has no means of entrance, and which many owners are disinclined to rat-proof on account of the great difficulties involved.

During the progress of this work of rat-proofing and rat destruction, 1,983 rats are known to have been destroyed, and large quantities of poisoned baits have been laid, the full particulars of which it has been impossible to obtain, but it is certain that in addition to the above, a considerable number of rats have been accounted for by this means.

Fumigation was carried out with the Clayton machine on 25 of the above premises, these being places of an open nature, such as tips, poultry runs, etc., where this method could be adopted without danger to the stock. This method has proved satisfactory on the premises treated.

On premises where drains appear to be defective, the Sanitary Department was asked to make an examination and furnish a report upon the condition found. The following work has been done in this connection.

(A) WORK CARRIED OVER FROM LAST YEAR.

The six drainage notices which were in course of preparation at the end of 1920 were duly served, and the work has been carried out during the year under review.

The drainage work which was in progress in 1920 in respect of seven notices served during that year has also been completed during 1921.

The drainage work in connection with one notice which had not expired at the end of 1920 has since been carried out.

In two instances in which no action had been taken in 1920, one has had the drainage work carried out, and the other premises have been vacated.

(B) WORK DONE IN CONNECTION WITH DEFECTIVE DRAINAGE SYSTEMS ON RAT INFESTED PREMISES DURING 1921.

Letters sent to Drainage Department	...	...	...	...	28
Drains found to be in fair condition (no action taken)...					<u>12</u>
Entered for examination	...	...	...	...	15
Awaiting plan for closet alteration	...	...	...	...	1
					<u>28</u>

Entered for Examination.

The 15 letters entailed 27 notices and involved 103 premises.

Result of Examination.

Drains defective	...	...	...	...	...	19 notices, involving 73 premises.
Minor defects only	...	...	...	...	4 „	15 „
In fair condition	...	...	...	...	4 „	15 „
						<u>27 notices, involving 103 premises.</u>

Drains Defective.

Notices served to repair	...	...	...	17 notices, involving 70 premises.
Reported to and work completed by				
Surveyor's Department	...	...	...	2 „ 3 „
				<u>19 notices, involving 73 premises.</u>

Notices Served.

17, involving 70 premises.

Work completed by house-drainage department	...	...	...	...	3 notices, involving 11 premises.
Work completed by Surveyor's department	...	...	...	...	2 „ 8 „
Work completed by owners' contractor	...	...	...	...	1 „ 8 „
In progress by owners' contractor...	...	...	...	...	2 „ 4 „
Not expired	...	...	...	...	1 „ 1 „
Referred to house-drainage department	...	...	...	...	1 „ 5 „
Awaiting structural alterations	...	...	...	...	1 „ 6 „
Not done at end of year	...	...	...	...	6 „ 27 „
					<u>17 notices, involving 70 premises.</u>

In 14 instances the Paving and Highways Department have been requested, either directly or indirectly through the Sanitary Department, to furnish reports upon the condition of passage mains, and pavements and footways of adjoining premises which are infested. As a result, evidence of rats was found on 12 occasions, and all defects were made good. In 2 instances a satisfactory report was received.

Under the Act the various Corporation Departments are responsible for all land and buildings under their charge, and the following action has been taken :—

Department	Baits laid	Baits taken	Dead Rats found	Rats killed by other methods
City Engineer's	56,316	37,796	395	22
Cleansing	—	—	—	2,724
Electricity	10,725	7,575	3	57
Tramways	750	600	—	—
Parks and Cemeteries .	280	280	—	400
Markets	—	—	—	929
Fire Brigade	—	—	—	5
Waterworks	—	—	—	2
Rivers	956	956	—	94
Total	69,027	47,207	398	4,233

180 Letters were sent during the year.

Letters to occupiers and owners specifying work required ...	125
Corporation Departments	36
Ministry of Agriculture	8
Port Sanitary and Local Authorities	3
Various	4
Rat-catchers	4
	—
	180
Number of Notices served	17
Number of Notices complied with	14
Prosecutions (complied with later)	2
Not expired	1

Prosecutions were instituted in 2 instances for failing to comply with the Notices, the 2 occupiers being fined £5 and £3 respectively.

One rat found dead and showing suspicious lesions was sent to the Public Health Laboratory for examination, but the report received from the Pathologist was satisfactory in that the lesions were possibly of a malignant nature and not due to a bacillus pestis.

One National Rat Week was held during the year (October 31st to November 5th). The following special measures were taken :—

The general public was notified of the rat week by means of posters, etc., and requested to make special efforts for rat destruction during the week. Posters were fixed in public places throughout the City, and 300 letters were sent to occupiers of land and buildings where the nature of the business carried on was likely to prove an attraction to rats, grain dealers, provision merchants, and occupiers of restaurants being included.

No return of results was asked for, as the experience gained during a previous rat week showed that very few returns were received, and that reliable information was difficult to obtain.

The Act was advertised twice during the year by means of large posters throughout the City.

TUBERCULOSIS.

The combat, as it is called, with this disease, is now in operation all over the country. Two important branches of administration, the preventive and the clinical, have been created side by side. It seemed to me that to work the two sides separately was to defeat both, and I, therefore, willingly handed the preventive side over to Dr. Sutherland, who is highly qualified by his administrative and professional qualifications to work the whole of the machinery. This arrangement has now been in operation for at least five years with entire success.

In the early days of notification I found that, without institutional assistance, the measures necessary for effectual prevention were irksome to the persons notified, and that a large measure of institutional assistance was necessary to secure their co-operation and even their acquiescence.

Moreover, by means of the experience gained—not always very happy—we have learned to see in what directions treatment can best be applied in aid of prevention, though it may not be possible to get good working colonies readily founded or capably administered.

Tuberculosis is by far the most important of existing diseases. It enters into the fate of nearly all, and it is profoundly influenced by every social relation and circumstance.

Its intimate association with other diseases may be inferred from the relation which the death-rate arising from it bears to the death-rate from all causes, the ratio remaining approximately constant.

To disentangle the factors concerned is, however, a huge task, and yet a necessary one, if progress is to be made and maintained, and many great minds in medicine have spent their efforts upon it.

The literature is now enough to stock a library.

It is the task of the Tuberculosis Officer to effect this disentanglement, and to secure the attention of the authorities to one measure after another capable of making an impression on the subtle and terrible enemy.

Some things, indeed, are evident.

Tuberculosis is the poor man's disease. Every step in amelioration of the general lot is, therefore, a victory, and every setback is a defeat in the struggle against tuberculosis. The amelioration must, of course, be wisely used, at least as wisely as the prosperity of the wealthier classes, which is, perhaps, not a final goal.

It is evident also that a knowledge and judicious adoption of a cheap and wholesome diet, which should exclude alcohol, would be of great assistance.

Provision for securing plenty of sunshine and fresh air, especially for the young, is another quite evident requisite.

Cleanly habits of life is another.

What is wanted is simple, and often not unattainable.

It is the adoption of these simple requirements that is but little attainable.

It is in the effort to see that these things are attained that public health should be great in device and effort. Something in these directions has been already achieved, but it falls very far short of what the Tuberculosis Administrator sees to be required. The quarrel with tuberculosis is alone sufficient to produce vast changes, if the proper demands of humanity are to be satisfied.

I have endeavoured for the last 36 years to assist in creating opinion on this subject, but new modes of thought are arising, and will mould preventive action in the future.

Meanwhile it is evident that the machinery of treatment, which has been painfully constructed, needs further modification. It should be shaped so as more and more to serve as the auxiliary of preventive medicine, which is its true function.

The statements here presented are divided into three sections, the first giving facts relating to notification and the action taken as the result, the more purely clinical side, and reports by the Medical Superintendents of Baguley Sanatorium and Abergele Sanatorium, and by Dr. Ratner on treatment at Monsall Hospital. No statement has ever been made in respect of the Crossley Sanatorium for the purposes of this Report.

Under notification an increase is recorded over 1920 in respect of both pulmonary and non-pulmonary cases. This increase is due to impoverishment from lack of employment.

The increase in deaths under pulmonary tuberculosis is very striking. The number of cases under observation continues to increase.

The growth of distress is clearly shown under the statements relating to the employment of the auxiliary grants.

Dr. Sutherland's statement is largely concerned with the administrative readjustments necessitated by the transference from the Local Insurance Committee to the Public Health Authority of the administration of sanatorium benefit, and with the provision of medical examinations and treatment in the case of ex-service men suffering from tuberculosis. He gives the usual tables relating to dispensary treatment, etc., and a valuable table showing for a number of years the after-history of arrested cases.

The following reports are submitted on institutional treatment in 1921:—

(1) By Dr. H. G. Trayer on Baguley Sanatorium, embodying a statement by his predecessor, Dr. R. C. Hutchinson. The most important feature of the latter is the continuation of his observations on the application of tuberculin to the diagnosis of doubtful cases.

(2) By Dr. A. G. M. Grant on Abergele Sanatorium, which contains interesting and important observations on the following points:—

- (a) Treatment by artificial pneumothorax ;
- (b) the application of classified leucocyte counts to prognosis ;
- (c) the application of blood pressure to treatment.

(3) Report by Dr. E. Ratner on the treatment of cases of pulmonary tuberculosis at Monsall Hospital.

NOTIFICATION OF TUBERCULOSIS.

The figures for the number of cases notified in 1921 are shown in Table 1 prepared for the Ministry of Health (inserted, page 86A.)

Tables 2 and 3 show the course of notification for a number of years. In the earlier years notification of Tuberculosis of the Lungs was not compulsory; in fact not until 1912, from which year a comparison is possible with recent years. It will be seen that even during the war there was a tendency for the number of notifications to go down. As regards other forms of Tuberculosis it would not be safe to start our comparison before 1914, since

in 1913 a number of chronic cases were notified. The number of these notifications ascended during the war, but not markedly. The condition of the milk supply deteriorated during the war, and the adverse influences acting on Tuberculosis of the Lungs affected non-pulmonary cases also.

In respect of each of the cases enumerated in Table 2, the fullest particulars are ascertained and recorded as regards their histories of infection, and the measures taken to limit the communication of the disease, and to assist families and individuals.

The following are tables pertaining to the year 1921 :—

TABLE 2.

PHTHISIS—NUMBER OF NEW CASES OF PULMONARY TUBERCULOSIS
NOTIFIED DURING THE YEARS 1900 TO 1921.

Year	Poor-law Cases	Institutions	Private Practitioners	Total
(1) 1900*	578	455	540	1573
1901.....	625	373	341	1339
1902.....	667	305	303	1275
1903.....	556	550	251	1357
1904.....	512	440	250	1202
1905	527	588	291	1406
1906.....	565	510	304	1379
1907.....	634	646	310	1590
(2) 1908.....	659	498	346	1503
1909.....	681	542	384	1607
1910.....	543	760	356	1659
(3) 1911.....	517	897	423	1837
(4) 1912.....	488	947	969	2404
(5) 1913.....	345	717	1350	2412
1914.....	483	877	1304	2664
1915.....	279	740	1194	2213
1916.....	322	817	1410	2549
1917.....	470	716	1061	2247
1918.....	268	563	1015	1846
1919.....	208	538	845	1591
1920.....	206	629	672	1507
1921.....	257	632	722	1611
Total ..	10390	13740	14641	38771

* This table does not include 425 cases notified in 1899.

- (1). Voluntary notification of Pulmonary Tuberculosis, Manchester scheme.
- (2). Compulsory notification (Tuberculosis Regulations) from Poor Law institutions.
- (3). Compulsory notification from voluntary institutions.
- (4). Compulsory notification of Pulmonary Tuberculosis by all practitioners.
- (5). Compulsory notification of all forms of Tuberculosis.

TABLE 3.

NEW CASES OF NON-PULMONARY TUBERCULOSIS NOTIFIED ON FORM A DURING THE YEARS 1913-1921, THE ORDER OF THE LOCAL GOVERNMENT BOARD TAKING EFFECT IN FEBRUARY, 1913. (MALES AND FEMALES.)

Year	Total	
	Males	Females
1913	759	713
1914	509	395
1915	415	411
1916	416	463
1917	432	447
1918	343	350
1919	204	227
1920	258	242
1921	276	269
TOTAL	3,612	3,517

In considering Table 1 we may confine our attention, in the first instance, to primary notifications on form A. In the Annual Report for 1918 a marked fall in the number of notifications was noted under both Pulmonary and Non-Pulmonary Tuberculosis. When the table for 1919 is compared with that for 1918, a further striking fall in the number of cases notified is observed. Taking all forms of Tuberculosis, the number of primary notifications on form A dropped from 2,531 in 1918 to 2,021 in 1919. In 1920 a further fall occurs, but it is only slight in amount, the number of primary notifications on form A being 1,970. On the other hand the number of primary notifications on form B rose from 4 to 74. The total number of primary notifications therefore rose from 2,025 in 1919 to 2,044 in 1920. The notifications of primary cases of Pulmonary Tuberculosis dropped from 1,838 in 1918 to 1,591 in 1919, the fall being continued in 1920, though to a diminished extent, the total number of primary notifications of cases of Pulmonary Tuberculosis being in that year 1,507, while those for Non-Pulmonary Tuberculosis rose from 434 in 1919 to 537 in 1920.

We have thus this remarkable feature, that a considerable fall in the number of primary notifications of cases of Pulmonary Tuberculosis was accompanied by a still more considerable rise in the number of primary notifications of cases of Non-Pulmonary Tuberculosis.

In 1921 the number of primary notifications of cases of Pulmonary Tuberculosis rose to 1,619, of which 21 were on form B.

There is again a rise in the primary notifications of cases of Non-Pulmonary Tuberculosis to 584 in 1921. The retrogression here shown is no doubt due to the general impoverishment of the population, as shown by the Poor Law and other figures.

The ages most affected by the rise of Tuberculosis in 1921 is shown in the following figures, which also show the ages at which fatality has increased. So far as Pulmonary Tuberculosis is concerned, the increase in fatality occurs

TABLE I

NOTIFICATIONS—JANUARY 1ST TO DECEMBER 31ST, 1921.

Age Periods	NOTIFICATIONS ON FORM A												Total Notifications on Form A	NOTIFICATIONS ON FORM B				Total Notifications on Form B	NOTIFICATIONS ON FORM C	
	Number of Primary Notifications													Number of Primary Notifications					Poor Law Institutions	Sanatoria
	0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65-	Total Primary Notifica- tions		Under 5	5-	10 to 15	Total Primary Notifica- tions			
Pulmonary Males	6	24	48	46	57	82	171	204	191	86	30	945	1,131	..	2	4	6	10	224	942
„ Females	4	15	56	53	80	86	146	98	72	27	16	653	853	..	5	2	7	11	55	369
Non-Pulmonary Males	10	48	70	47	31	16	21	12	10	8	3	276	356	..	10	9	19	25	18	56
„ Females.. ..	6	43	59	50	38	24	22	9	6	7	5	269	342	..	6	6	12	14	18	35
Totals.. .. .	26	130	233	196	206	208	360	323	279	128	54	2,143	2,682	..	23	21	44	60	315	1,402

the working ages 15 to 45. The increase in fatality under non-Pulmonary Tuberculosis distributed more widely.

TABLE 4.—PRIMARY NOTIFICATIONS ON FORM A AND DEATHS FROM PULMONARY AND NON-PULMONARY TUBERCULOSIS, 1917-1921.

CITY OF MANCHESTER.

Pulmonary Tuberculosis		0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65+	Total
Notifications, 1917	...	12	65	152	166	194	185	410	432	335	181	104	2,236
1918	...	1	46	106	115	200	177	373	352	278	136	54	1,838
1919	...	2	44	118	120	169	154	280	324	214	112	53	1,590
1920	...	3	22	98	96	142	154	279	300	231	107	38	1,470
1921	...	10	39	104	99	137	168	317	302	263	113	46	1,598
Total	...	28	216	578	596	842	838	1,659	1,710	1,321	649	295	8,732
Deaths, 1917	...	4	20	20	42	110	109	189	273	237	121	71	1,196
1918	...	3	19	16	41	100	84	197	237	230	129	47	1,103
1919	...	2	14	19	26	88	92	162	212	195	100	41	951
1920	...	4	3	6	27	73	74	152	205	201	90	33	868
1921	...	4	16	7	18	110	102	160	232	200	83	35	967
Total	...	17	72	68	154	481	461	860	1,159	1,063	523	227	5,085
Non-Pulmonary		0-	1-	5-	10-	15-	20-	25-	35-	45-	55-	65+	Total
Notifications, 1917	...	32	186	172	169	103	49	62	39	29	21	17	879
1918	...	13	141	152	125	89	46	42	31	23	21	10	693
1919	...	23	75	86	74	63	21	31	23	19	10	6	431
1920	...	19	74	107	92	73	34	40	26	18	13	4	500
1921	...	16	91	129	97	69	40	43	21	16	15	8	545
Total	...	103	567	646	557	397	190	218	140	105	80	45	3,048
Deaths, 1917	...	49	111	50	42	27	14	25	18	6	9	8	359
1918	...	23	86	35	37	29	15	12	12	14	14	10	287
1919	...	24	66	27	34	22	16	12	11	15	6	4	237
1920	...	22	62	27	27	20	10	16	17	8	7	6	222
1921	...	20	61	33	31	36	15	20	18	12	5	1	252
Total	...	138	386	172	171	134	70	85	76	55	41	29	1,357

It was formerly the custom to record the institutions from which new cases of Tuberculosis, Pulmonary and Non-Pulmonary, were notified, a custom interrupted during the war. But this information is of value as showing the distribution of cases in institutions and as indicating to some extent the forms taken by the disease. The table has, therefore, been restored.

SOURCES OF NOTIFICATION OF TUBERCULOSIS DURING 1921.

Source	Pulmonary	Non-Pulmonary	Totals
Crescent Road Institution	80	15	95
Withington Hospital	135	29	164
Booth Hall	38	60	98
Outside Poor Law	4	..	4
Manchester Royal Infirmary	62	95	157
Ancoats Hospital	19	27	46
Skin Hospital .. .. .	..	66	66
St. Mary's Hospital	2	..	2
Northern Hospital	7	4	11
Jewish Hospital	9	1	10
Pendlebury Hospital	3	3	6
Medical Mission .. .. .	..	..	..
Hulme Dispensary .. .. .	..	..	..
Chorlton-upon-Medlock Dispensary	..	..	..
Gartside Street Dispensary	36	63	99
Bowdon Hospital	6	..	6
Hardman Street Dispensary	322	23	345
Various Sources	46	12	58
Tuberculosis Staff	57	7	64
Asylums	34	7	41
Schools	13	32	45
Private Practitioners	722	131	853
Military	16	1	17
Total	1,611	576	2,187

The same observation applies to the classification of new cases of Non-Pulmonary Tuberculosis, which appears on page 95.

Formerly it was the custom to give a detailed classification of cases of Non-Pulmonary Tuberculosis, a classification which for several reasons was omitted during the war. But, in view of the importance attaching to this grouping, in connection with the treatment of Non-Pulmonary Tuberculosis which we may hope to see established at Abergele, this grouping is restored, and faces this page.

The following table and statement shows the work done in connection with Public Health Work, which is under the supervision of Dr. Sutherland, and is by him co-ordinated with the clinical work. This table and statement require little comment. It should be observed that disinfection by dough, which is mentioned as Esmarch's method, being due to his research on disinfection with bread has not yet been resumed, but will, it may be hoped, be so in the near future, being highly efficient and more suitable for domestic disinfection than disinfection with chlorinated lime. The number of cases of Pulmonary Tuberculosis under observation continues to rise, notwithstanding diminution in the number of notifications, a fact which testifies to success in the treatment of this disease. Still one would be glad to see this rise arrested.

TUBERCULOSIS (NON-PULMONARY).—CASES NOTIFIED ON FORM A DURING 1921 (JANUARY 1ST TO DECEMBER 31ST).

Location of Disease	AGE GROUPS																				Totals	
	0—		5—		10—		15—		20—		25—		35—		45—		55—		65—			
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Brain :—Tumour	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Meninges	11	13	10	6	4	4	2	6	—	1	—	3	3	1	—	—	—	—	—	—	30	34
Hydrocephalus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Glands :—Cervical	7	8	15	21	12	12	8	8	1	9	1	4	—	1	—	1	3	—	—	—	47	64
Mesenteric	1	3	1	—	—	—	1	2	1	—	—	4	—	1	—	1	—	—	—	—	4	5
Axillary	1	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	1	—	1	—	5	—
Inguinal	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Tuberculous Peritonitis	5	6	8	7	5	7	3	8	1	4	—	2	—	—	—	—	—	—	—	—	23	34
Tuberculosis of Abdomen	9	7	4	6	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16	15
" of Mediast. and Bron.	2	—	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—
" of Pleura	—	—	—	—	—	2	2	1	—	—	1	—	—	—	2	—	—	—	—	—	5	3
" of Breast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
" of Intestines	—	1	1	—	—	—	—	—	1	—	—	1	—	—	—	—	1	—	—	—	4	2
Joints :—Spine	3	1	2	3	2	1	—	2	2	1	5	2	—	1	1	2	1	1	—	—	16	14
Hip	4	1	9	4	5	5	4	1	—	1	2	—	2	—	2	—	—	1	—	—	28	13
Elbow	—	—	1	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	1	2
Ankle	1	—	1	—	1	1	—	—	1	—	—	2	—	—	—	1	—	—	—	—	4	4
Wrist	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	2
Shoulder	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Knee	1	2	3	1	—	4	1	2	—	1	2	1	—	—	—	—	1	—	2	—	7	14
Bones :—Various	—	2	3	—	3	5	2	1	—	2	1	2	3	1	2	—	1	1	1	3	16	17
Tuberculosis of Skin	3	3	7	7	10	5	5	5	6	3	5	2	2	3	3	—	1	2	—	—	42	30
General Tuberculosis	4	3	—	—	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	6	4
Special Organs :—Ear	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nose	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bladder, etc.	1	—	—	—	—	—	1	—	—	—	—	—	1	1	—	—	—	—	—	—	3	1
Kidney	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	1	1
Testicle etc.	—	—	—	—	—	—	—	—	2	—	1	—	—	—	—	—	—	—	—	—	3	—
Muscles, etc.	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Pharynx	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rectum	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unclassified	3	—	2	2	—	1	—	—	—	1	2	1	1	1	—	2	—	—	—	—	8	8
Totals	57	50	70	58	48	50	31	38	16	24	21	22	12	9	10	6	8	7	3	5	277	269

Public Health Work is summarised in the following Table and Statement:—

TABLE 5.—STATISTICS RELATING TO THE NOTIFICATION OF PHTHISIS.

	1921	1920	1919	1918	1917	1916	1915	1914	1901 to 1913	1899 Sep. 1 to Dec. 31 1900	Totals
<i>Visited and Registered—</i>											
males	989	1053	1031	1197	1431	1526	1448	1612	13153	1017	24457
females	654	631	723	744	922	1109	1110	1094	8122	732	15841
Totals ...	1643	1684	1754	1941	2353	2635	2558	2706	21275	1749	40298
<i>Cases Disinfected—</i>											
By Corporation—											
a) With solution of chlorinated lime only	2133	2082	2507	2431	2934	635	869	994	8434	581	23600
b) With lime solution only	0	0	0	0	0	0	0	0	17	109	126
c) †By Esmarch's method and solution of chlorinated lime	0	0	0	0	0	1878	2415	3123	17232	0	24648
Totals ...	2133	2082	2507	2431	2934	2513	3284	4117	25683	690	48374
By Tenants—											
Esmarch's method or Chlorinated lime, &c.	6157	4891	4633	4167	3523	1799	3580	4564	35620	1299	70233
Totals...	8290	6973	7140	6598	6457	4312	6864	8681	61303	1989	118607
<i>Specimens of Sputum Examined:</i>											
Positive	534	437	305	401	465	721	781	1052	6601	104	11401
Negative	1585	1729	1342	1081	1471	1720	1576	2269	12022	154	24949
Totals ...	2119	2166	1647	1482	1936	2441	2357	3321	18623	258	36350
Reported as sent to hospital	2139	2153	2035	2315	2400	2078	1719	2718	21678	991	40226
Recovered from common lodging-houses..	102	115	80	117	143	172	212	283	2922	187	4333
Number of cases under observation	* about										...
	8606	7990	7318	6511	6898	6327	5690	5941	33102	600	

* This number includes all forms of Tuberculosis. † Esmarch's method not used since 1916 owing to a Food Control Order.

3,238 special cases have been entered in the Business Book for investigation and cleansing after removal to hospital, change of residence, death, or under special circumstances.

494 tenants have allowed the removal of bedding, etc., for disinfection ; or have themselves burned it in a few instances.

46,008 cardboard boxes have been prepared in the office and supplied to patients for spitting purposes in the home.

483 spit bottles have been supplied for use outside the house.

11,570 visits have been made by the Enquiry Officers during the year.

40,713 letters were sent out, of which 201 were to owners with reference to the disinfection of houses, with subsequent correspondence in many instances.

1,006 notices warning against spitting on floors, etc., have been supplied to offices and workshops.

The fate of patients treated in the Crossley Sanatorium and Baguley Sanatorium is set forth in the following tables. Baguley Sanatorium is an institution for advanced cases, and the results are such as might be anticipated.

If patients treated in the Crossley Sanatorium do not show a higher proportion of survivors, it is to be considered that cases have not been sent to this institution at a sufficiently early stage to obtain the best results. But the figures in recent years are hopeful.

TABLE 6.
CROSSLEY SANATORIUM.
Males.

Year	No. of new cases	No. of re-admissions	Died in the Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1921
1905	16	1	..	11	4	1
1906	18	2	1	14	3	..
1907	29	2	1	21	5	2
1908	36	3	1	25	8	2
1909	27	4	2	15	7	3
1910	27	5	..	14	8	5
1911	38	2	..	26	7	5
1912	53	3	1	30	16	6
1913	151	3	..	70	48	33
1914	184	8	1	74	75	34
1915	140	10	3	46	57	34
1916	118	8	1	28	34	55
1917	113	12	..	28	31	54
1918	98	18	..	16	20	62
1919	114	24	..	16	15	83
1920	108	19	1	11	23	73
1921	125	28	..	4	6	115
Total	1,395	152	12	449	367	567

TABLE 6—*continued.*CROSSLEY SANATORIUM—*continued.**Females.*

Year	No. of new cases	No. of re-admissions	Died in the Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st 1921
1905	14	..	1	10	2	1
1906	14	1	..	10	3	1
1907	16	2	..	14	1	1
1908	13	3	..	13	..	..
1909	16	1	..	12	1	3
1910	11	4	..	7	4	..
1911	18	2	..	11	2	5
1912	31	3	..	13	13	5
1913	67	..	..	9	40	18
1914	69	5	..	13	33	23
1915	67	5	..	11	38	18
1916	74	3	..	13	32	29
1917	68	5	1	15	18	34
1918	61	9	..	10	19	32
1919	62	5	..	10	11	41
1920	56	8	..	11	11	34
1921	91	12	..	4	5	82
Total	748	68	2	186	233	327

As regards Baguley Sanatorium, inasmuch as this institution is mainly occupied by advanced cases, the same results cannot be expected, but they are in many cases very good, and a spirit of enterprise and courage prevails in that institution.

TABLE 7.
BAGULEY SANATORIUM.

Males.

Year	No. of new cases	No. of re-admissions	Died in Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1921
1912	49	..	14	23	7	5
1913	329	17	65	161	69	34
1914	246	38	57	130	29	30
1915	276	46	77	129	35	35
1916	403	73	132	159	48	64
1917	401	76	88	117	69	127
1918	390	68	83	112	57	138
1919	445	225	74	74	80	217
1920	479	208	89	96	34	260
1921	349	196	58	39	9	243
Total	3,367	947	737	1,040	437	1,153

Females.

Year	No. of new cases	No. of re-admissions	Died in Sanatorium	Died elsewhere	Lost sight of	Known to be still living, Dec. 31st, 1921
1912	20	..	3	9	7	1
1913	167	7	32	64	51	20
1914	98	5	17	36	24	21
1915	87	5	23	27	23	14
1916	262	16	66	111	41	44
1917	277	24	63	83	69	62
1918	226	44	66	73	20	67
1919	196	30	52	63	18	63
1920	168	46	46	39	16	67
1921	164	55	30	21	3	110
Total	1,665	232	398	526	272	469

The following tables are to be read in conjunction with the tables showing the amount of assistance given in other recent years. They indicate a very rapid growth of distress during the last two years:—

The number of cases of Tuberculosis in which the income of the individual or family showed varying amounts of deficit under an assumed standard of living, and the number in which assistance was given to the individual or the family, or both, is shown in the following tables:—

TABLE 8.

TABLE SHOWING PARTICULARS OF DISTRESS IN CASES OF PULMONARY TUBERCULOSIS NOTIFIED DURING THE YEAR 1921. CLASSIFIED ACCORDING TO THE REQUIREMENTS OF THE FAMILY IN EXCESS OF THE INCOME. FOOD, CALCULATED ON THE ATWATER SCALE; HOUSEHOLD SUNDRIES ON MR. ROWNTREE'S SCALE. TAKING THE UNITS OF FOOD AND HOUSEHOLD SUNDRIES USED IN 1913 AS STANDARDS, VARIOUS AMOUNTS HAVE BEEN USED. IN 1921 THE AMOUNT ADDED WAS 175 PER CENT., REDUCED LATER TO 140, AND THEN TO 125 PER CENT.

Shortage up to IN SHILLINGS.

Conditions affecting Individual Cases	- 5	- 10	- 11	- 12	- 13	- 14	- 15	- 16	- 17	- 18	- 19	- 20	- 25 +	Total
Living December 31st, 1921	45	33	7	9	5	7	6	1	4	4	3	5	55	184
Dead December 31st, 1921	21	16	5	5	3	4	3	3	..	2	2	1	25	90
Relief from Guardians	10	4	..	..	..	..	1	..	..	..	3	2	16	36
Assistance from the £2,500 Grant (Family)	35	28	6	9	5	4	5	..	2	5	1	4	13	117
Assistance from the £1,500 Grant (Individual)	7	8	3	2	1	1	..	1	..	..	..	..	1	24

SOURCES OF NOTIFICATION OF NON-PULMONARY CASES ON FORM A
FOR THE YEARS 1918, 1919, 1920, AND 1921.

Source	1918	1919	1920	1921
Crumpsall Hospital	49	22	15	15
Withington Hospital... ..	...	...	11	29
Booth Hall... ..	45	33	43	60
Outside Poor Law	2	1	...	...
Royal Infirmary	111	58	95	95
Ancoats Hospital	57	34	31	27
Skin Hospital	35	32	46	66
St. Mary's Hospital... ..	25	2	4	...
Northern Hospital	1	1	9	4
Jewish Hospital... ..	1	19	11	1
Pendlebury Hospital... ..	8	5	2	3
Medical Mission ... ..	...	...	...	...
Hulme Dispensary	1	...	...	...
Chorlton-upon-Medlock Dispensary ...	...	...	...	...
Gartside Street Dispensary	66	19	25	1
Hardman Street Dispensary	15	9	23	23
Army	14	2	...	1
Bowdon Hospital ... ..	...	...	2	...
Tuberculosis Office Staff... ..	6	16	16	7
Asylums	6	2	8	7
Various Sources... ..	17	8	11	13
Private Practitioners	234	168	148	131
	693	431	500	483

NOTIFICATIONS OF PULMONARY AND NON-PULMONARY TUBERCULOSIS
RECEIVED FROM SANITARY AREAS DURING 1921.

Statistical Divisions	Pulmonary	Non-Pulmonary	Totals
City of Manchester	1,611	577	2,188
I. Manchester Township	356	102	458
II. North Manchester	381	152	533
III. South Manchester	874	323	1,197
{ Ancoats	117	38	155
{ Central	93	20	113
{ St. George's	146	44	190
{ Cheetham	100	19	119
{ Crumpsall	13	6	19
{ Blackley	29	13	42
{ Harpurhey	42	20	62
{ Moston	32	19	51
{ Newton	59	25	84
{ Bradford	56	28	84
{ Beswick	22	12	34
{ Clayton	28	10	38
{ Ardwick	109	35	144
{ Openshaw	61	40	101
{ West Gorton	59	24	83
{ Rusholme and Kirkmanshulme ...	77	28	105
{ Chorlton-upon-Medlock	154	46	200
{ Hulme	200	75	275
{ Moss Side	57	25	82
{ Withington	74	24	98
{ Gorton	71	20	91
{ Levenshulme	12	6	18

TUBERCULOSIS—ANNUAL REPORT, 1921.

In giving a report for 1921 upon the Manchester scheme for dealing with tuberculosis, reference may be made to the report of 1920, wherein was set out in detail the arrangements made. It is not proposed to repeat the information, but certain variations have occurred to which it is desirable to draw attention. The main administrative change has been that due to the new regulations of the Ministry of Health, which became effective on May 1st, 1921. This date was the one upon which institutional sanatorium benefit ceased to be administered by insurance committees, and was made the

sponsibility of county and county borough councils. The following circulars, etc., contained the essential points indicating future procedure :—

Circular 190.—General arrangements.

Memo. 30 T.—Relates to arrangements to be made for the treatment of ex-service patients.

Memo. 31 T.—Relates to the financial arrangements.

Draft Feb. 25th, 1921.—“National Health Insurance (Medical Benefit) Amendment Regulations No. 2, 1921.”

Draft, March 18th, 1921.—“Termination of Sanatorium Benefit Regulations, 1921.”

These altered administrative measures were summarised in the two reports submitted to the Public Health Committee as follows :—

Tuberculosis Offices,
Manchester,
April 11th, 1921.

Circular 190, etc.

This circular sets out some of the conditions under which the treatment of tuberculosis by county councils and county borough councils shall be carried out. It points out that after the 1st May insurance committees will no longer provide treatment for patients suffering from tuberculosis, except as part of medical benefit. Agreements between councils and insurance committees are to be determined when sanatorium benefit ceases. Provision is made for increased grants to councils consequent upon the discontinuance of contributions from insurance committees. Continuity of treatment is to be secured by arrangement between the Council and Insurance Committee.

All registers, records, and documents relating solely to sanatorium benefit are to be handed over to the Council, and this body is also to have access at all reasonable times to any other registers, relative in part to sanatorium benefit and administration. It may also be necessary for the Insurance Committee to have access for audit and other purposes to the transferred documents. The financial clause it is suggested should be referred for report to the City Treasurer.

The special memorandum 30 T. deals in great detail with the special arrangements to be made for residential treatment and other services relating to tuberculous ex-servicemen. Amongst other matters in this memorandum it is to be noted that the categories of ex-servicemen eligible for special preferential treatment are to be altered. The date of the termination of the war, as declared by Order in Council, will be an important consideration in this regard. The details for establishing the category to which men belong are set out, and the extent of the liability of the Health Ministry in certain non-attributable cases is also given. The question of establishing attributability in many of these cases is to be dealt with by the Regional Director of the Ministry of Pensions acting upon special reports sent to him by the Tuberculosis Officer.

All cases invalidated for tuberculosis after the 1st May are to be directly reported by the Ministry of Health, in duplicate, to the Medical Officer of Health, one copy being intended for the Tuberculosis Officer. The income limit of

£160 per annum in regard to these ex-service men no longer applies. Arrangements for treating commissioned officers and nurses will be made by the Ministry of Pensions, who may request the Council to provide the treatment. The determination of the need for residential treatment is to be made by the Tuberculosis Officer upon the results of examination and the reports before him. It is suggested that if available accommodation does not exist in the Council's own institutions it may be necessary to obtain beds elsewhere. A monthly return of all ex-servicemen in institutions and awaiting treatment is to be prepared for the Ministry of Health. Extended treatment, combined with training, is provided for, and is to be decided by the Tuberculosis Officer.

Financial arrangements, again, in regard to recovery of costs, are set out, and should be referred to the Treasurer's Department.

War Pensions Committees are to be kept informed by the Tuberculosis Officer of cases recommended for treatment, or treatment and training. He is further requested to report upon the advisability of patients abstaining from remunerative occupations.

The Tuberculosis Officer is also to notify the Local Pensions Committee of the date and commencement of dispensary treatment, and subsequent certificates, including his opinion in regard to work, are required at regular intervals. The same reports are required from the Tuberculosis Officer in regard to cases referred to practitioners for treatment, whilst intimations in advance of discharges of men from residential institutions, together with many other details, are also required from the Tuberculosis Officer. Periodical reports are also required during pension periods, and seven other special forms of certificates by Tuberculosis Officers (for pension purposes as distinct from his other duties) are also set out. Medical record cards have to be regularly filled in, in addition to these other various certificates, in each case where the patient comes under review. It is requested that arrangements shall be made whereby all persons applying for sanatorium benefit to the Insurance Committee, together with other tuberculous persons, may be brought to the notice of the Tuberculosis Officer at the earliest date.

It is suggested that once more Councils should circularise medical practitioners, drawing attention to the Tuberculosis Regulations of 1912. The existing domiciliary order of 1916 will cease to have effect, and a draft of new regulations providing for periodical reports by practitioners, and for consultations with the Tuberculosis Officer, is submitted; Insurance Committees are to distribute to insurance practitioners before the 1st May the forms necessary to make their reports. These reports will be sent to the Regional Medical Officer, who will forward them to the Tuberculosis Officer. The supply of extra nourishment is to be continued in those cases recommended for it by the Tuberculosis Officer, where the patient is not an ex-service man. The basis upon which grants are available for this service is explained in a special memorandum 31 T. It is to be noted that the annual expenditure for this purpose has not to exceed £2 per 1,000 of the population of the area of the Council. Further reference is made to the taking over of the sanatorium benefit staff of the insurance committees. In regard to this the Committee will recollect that arrangements have been approved for the transfer of three clerks. It will be necessary to provide the desks and extra filing accommodation for these clerks at once, as they are to commence work on May 1st.

It may be necessary to increase the number of the clerical staff at a later date to deal with the increased work.

D. P. SUTHERLAND.

A report on the arrangements which have been made by the Tuberculosis Officer to meet the change in the administration of sanatorium benefit, necessitated by the new regulations which came into force on 1st May, 1921.

As suggested in the Ministry of Health's Circular 190, a copy of the Tuberculosis Regulations (1912) has been sent to all practitioners in the area, and to all Medical Superintendents of Manchester Hospitals. Two letters were enclosed with each, one a covering letter from the Medical Officer of Health (Appendix 1), and the other one from the Panel Committee itself (Appendix 2) explaining briefly the change contemplated, and urging the necessity for close collaboration with the Tuberculosis Officer.

A memorandum of interview with the Panel Committee, etc., is attached (Appendix 3).

The Tuberculosis Officer had a conference with Mr. Lilley (Clerk to the Insurance Committee) and Dr. Smiley (the Regional Medical Officer), at which the procedure for dealing with new cases was agreed upon. On notification, an investigation enquiry as to whether a patient is insured or not, is made. Any doubt as to an insured person's eligibility to medical benefit is referred to the Insurance Committee for verification of title. Upon notification a Practitioner's Report Form (G.P. 17) should be forwarded via the Regional Medical Officer to the Tuberculosis Officer. The patient, in all cases, will be examined by a consultant with a view to ascertaining the stage and extent of disease, and the treatment required. A special register of notifications has been devised with a view to securing full attention to every case. If a patient is recommended to remain on domiciliary treatment subsequent practitioners' reports are sent periodically direct to the Tuberculosis Officer. Printed notices of periodical reports due are sent to practitioners direct. Only in the case of difficulty being experienced in obtaining progress reports is the matter to be referred to the Regional Medical Officer for his necessary action.

Memorandum of interview with Dr. Smiley and Mr. Lilley is attached (Appendix 4).

Apart from the fact that in the case of insured persons the necessity of informing the Insurance Committee is obviated, no alteration has been required in the procedure for treating civilian patients at the dispensary and in sanatoria. All uninsured cases are dealt with as hitherto.

Ex-service men are subject to special arrangements, as follows :—

In accordance with Memo. 30 T. all men invalided from the service with tuberculosis or suffering from tuberculosis held by the Ministry of Pensions to be connected with their service, are given preferential admission to sanatoria as under the old regulations of Memo. 233A/I.C. The cost of such treatment is recoverable from the Ministry of Health. A form of letter to the Local War Pensions Committee has been drawn up for the purpose of ascertaining the possible liability of the Ministry of Pensions in new cases where the liability has not already been accepted. Where the Ministry of Pensions have no record of the case, and the Tuberculosis Officer is of the opinion that tuberculosis is connected with the man's service, he supplies a

certificate to that effect to the Regional Director, who takes immediate steps to have the report considered. If the Ministry of Pensions concur with the opinion, liability for treatment in sanatoria is accepted.

The Ministry of Pensions being obliged to pay the travelling expenses of patients to and from institutions, an arrangement has been made with Mr. Wood, the Secretary of the Local War Pensions Committee, whereby the patients are handed their railway fares at the Tuberculosis Office, and the amount is recovered weekly from the Pensions Committee. The cost of conveyance by ambulance is included in the weekly cost of treatment for Baguley and Abergele.

All recommendations for, and grants of, treatment are required to be notified to the Local War Pensions Committee. This is being done on a special form drawn up at the Tuberculosis Office, and same has been approved by the Local War Pensions Committee. Subsequently forms for this purpose will be provided by the Ministry of Health. All these notifications to the Local War Pensions Committee are recorded upon a special card register. A special register for residential treatment is kept to facilitate the rendering of the account to the Ministry of Health.

The procedure for dealing with ex-service men under the various forms of treatment is as follows:—

Dispensary Treatment.—The recommendation is advised to the Local War Pensions Committee, with a special note by the Tuberculosis Officer as to whether the patient should abstain from remunerative occupation whilst undergoing treatment of this nature. The Local War Pensions Committee inform the patient of the recommendation, and supply him with an attendance card (if he is a pensioner) for presentation at the dispensary. Complete arrangements have been made by Mr. Hunt, the Secretary of the Consumption Hospital, after consultation with the Tuberculosis Officer, for the initialling by the consultant and the stamping of the cards.

Domiciliary Treatment.—The Local War Pensions Committee, the patient, and his practitioner are advised. Being a part of ordinary medical benefit, the Regional Medical Officer is responsible for seeing that progress report forms are received regularly, and overdue reports applied for. In the event of the patient applying for treatment allowance while under his practitioner's care, the Tuberculosis Officer is called upon to furnish a certificate as to whether, in the interests of the treatment, the patient should abstain from remunerative occupation.

Institutional Treatment.—Recommendations made are advised to Local War Pensions Committee, with a note as to abstinence from work pending admission. The actual date of admission is notified on admission. At the expiration of the period of treatment the date of discharge is advised, with special remarks *re* completion of period, nature of tuberculosis for which treatment was given, etc., etc. Recommendations for, and periods of, extended treatment, combined with training, are dealt with in a similar manner.

Medical record cards to be supplied by the Pensions Committee are to be kept written up for patients undergoing dispensary or residential treatment, but they are not yet to hand. Arrangements have been made for dealing with them when issued. The Superintendents of the Sanatoria and the Secretary of the Dispensary have been advised of the details necessary to receive attention (Appendix 5).

Memorandum of interview with Mr. Wood is attached (Appendix 6).

All documents and papers relating solely to sanatorium benefit have been handed over by the Manchester Insurance Committee, with the proviso that they have free access to them when necessary. For list see Appendix 7.

The additional work occasioned by the new regulations has been met, to a large degree, by the transfer of the three extra clerks from the Insurance Committee.

The work of the two Assistant Tuberculosis Officers has been adapted to deal adequately with the new arrangements.

The necessary details have been arranged in the office for maintaining separate records, for statistical and other purposes, of insured and non-insured patients.

The continuity of treatment for all patients has been ensured in every case.

Memoranda of interviews are given as appendices, together with relative circulars and letters.

(Signed) D. P. SUTHERLAND.

May 30th, 1921.

It does not seem necessary to give the appendices in full, as the outline above will indicate their general scope. The new arrangements have now been working smoothly since their date of inception, and there are no special comments called for upon this aspect of the work.

In the last report the opinion was expressed that we might anticipate an increased incidence and mortality from tuberculosis. Special reference was made to some of those general circumstances—*e.g.*, bad housing, overcrowding, unemployment—which we might expect would have an adverse effect upon any efforts made to combat the spread of disease. It has, unfortunately, been only too evident that these influences have had their inevitable result, and it appears in the increased death-rate for tuberculosis. We have not yet, in Manchester, reached that stage at which it is desirable for further immunising by tubercular infection to occur, and the level of resistance, slowly and painfully built up, is still far below that necessary to cope with the potentialities of infection that exist. It will be found that periodical waves of decrease and increase in the mortality will occur, with a gradually descending movement, until a relative stability is achieved. This stability will be liable to upset by

any sufficiently adverse factors of living, whether individual or general. These are in operation at present. There is no immediate appearance of their decline. The usual tables and statistics are given in the following pages.

Insured cases applying for treatment :—

1914 .. { 730 Males.
321 Females.

1915 .. { 572 Males.
315 Females.

1916 .. { 747 Males.
316 Females.

1917 .. { 728 Males.
359 Females.

1918 .. { 642 Males.
261 Females.

1919 .. { 630 Males.
255 Females.

1920 .. { 645 Males.
250 Females.

1921 .. { 615 Males.
255 Females.

Cases of discharged soldiers referred for treatment—312.

Number of insured patients who had so far recovered that no active signs of disease were found—342.

Recoveries amongst uninsured cases—291

Contacts examined at their homes and at the Dispensary—399; of these definite signs of Tuberculosis were found in 29, and in 126 further observation was required, as they were suspicious cases of Tuberculosis.

Grants of food were made in 2,299 instances to 612 families, and 188 grants of clothing were supplied to 124 patients in Hospital and Sanatorium to enable them to derive full benefit from treatment.

Bedding, bedsteads, and cots, together with nursing appliances, have also been loaned in necessitous cases to secure isolation and adequate nursing at home.

Special visits to the number of 10,904 have been paid by the Tuberculosis Nurses and 1,722 visits by the Clinical Nurse who attends to domiciliary patients requiring surgical dressings and nursing care.

TABLE A.

SUMMARY OF PRIMARY EXAMINATIONS MADE BY THE SENIOR TUBERCULOSIS OFFICER AND ASSISTANT TUBERCULOSIS OFFICER IN 1921.

Reason for Examination	Occupational Con- dition at Examina- tion	Diagnosis															Recommendations made												
		Pulmonary Tuberculosis			Tuberculosis of																								
		Stage I.	Stage II.	Stage III.	Larynx	Bones and Joints	Glands	Abdomen	Other Organs	Doubtful Tuberculosis	Bronchitis	Heart Lesions	Other Diseases	No evidence of Tuberculosis	Recovery	No Disease	Delamere and Abergele	Baguley	Hardman Street Dispensary	Union	Other Hospitals	Private Practitioners	Observation						
Males ...	Treatment	101	11	358	24	193	301	42	48	54	3	5	7	1	35	85	115	9	78	139	12	61	15	83	38	0	47	163	75
Females	Diagnosis	88	10	55	41	91	103	12	28	34	1	9	5	2	20	47	13	1	19	26	10	17	8	46	15	4	33	29	32
Children	Claimed Recovery	86	40	19	94	143	96	10	11	3	0	16	23	4	45	44	16	0	34	48	30	43	1	2	28	9	76	14	36
Totals ...		927				927				* 1092								927											

* Total of "diseases" as distinct from total cases examined, i.e., several patients had more than one form of disease present.

* Total of "diseases" as distinct from total cases examined, i.e., several patients had more than one form of disease present.

TABLE B.—RESULT OF EXAMINATION OF CASES SENT FOR DIAGNOSIS, 1921.

	Pulmonary Tuberculosis			Tuberculosis of						No evidence of Tuber- culosis	Bron- chitis	Heart Lesions	Other Diseases
	Stage I.	Stage II.	Stage III.	Larynx	Bones and Joints	Glands	Abdomen	Other Organs	Doubtful Tuber- culosis				
Males ..	34	26	30	2	..	4	1	4	63	119	96	8	65
Females ..	5	8	6	..	..	..	2	1	18	8	6	1	9
Children ..	10	..	1	..	..	..	2	1	5	9	1	..	5

TABLE C.—RESULT OF EXAMINATION OF CONTACTS.

Males ..	1	1	..	..	..	1	..	..	8	12	6	..	2
Females ..	2	2	..	..	1	1	..	..	19	4	2	..	8
Children ..	..	..	..	..	..	8	..	..	25	28	12	..	27

TABLE D.—DISPENSARY RETURN, 1921.

Number of persons, including Contacts, who were examined for the first time during the period from January 1st to December 31st, 1921, at or in connection with the Dispensary or Visiting Station, and were			Number of persons diagnosed to be suffering from Tuberculosis who were treated or supervised at or in connection with the Dispensary or Visiting Station during the period from January 1st to December 31st, 1921		Number of persons who were under treatment, supervision, or observation at or in connection with the Dispensary or Visiting Station on December 31st, 1921	
Diagnosed as suffering from Tuberculosis	Diagnosed as <i>not</i> suffering from Tuberculosis	Undiagnosed and remaining under observation	Total number examined		Insured	Uninsured
			Insured	Uninsured		
921	1214	580	828	1887	57	405

TABLE E.—INSURED CASES TREATED IN 1921.

Residential	1,345
Dispensary	140
Domiciliary	2,493
<hr/>	
Total	3,978
<hr/>	

ANALYSIS OF CASES TREATED.

TABLE I.—*Residential (Insured).*

	Total cases treated	Discharged from Institutions		Died	* Residential treatment discontinued in other cases	Still under Residential treatment on 1st January, 1922
		Improved	Without Improvement			
	(1)	(2)	(3)	(4)	(5)	(6)
Men	1,017	454	186	124	17	236
Women	328	125	74	37	6	86
Totals	1,345	579	260	161	23	322

* The figures in column (5) relate to cases as to the progress of which no definite report is available for various reasons—*e.g.*, the withdrawal from the Institution of the insured persons themselves before the expiration of the period for which they were nominated for the treatment.

TABLE II.—*Residential (Uninsured).*

	Total cases treated	Discharged from Institutions		Died	* Residential treatment discontinued in other cases	Still under Residential treatment on 1st January, 1922
		Improved	Without Improvement			
	(1)	(2)	(3)	(4)	(5)	(6)
Men	109	33	17	10	6	43
Women	142	53	30	20	1	38
Children (under 16)	38	22	...	...	...	16
Totals	289	108	47	30	7	97

* See footnote to table I.

TABLE III.—*Dispensary (Insured).*

	Total cases treated	Discharged from Institution		Died	* Treatment discontinued in other cases	Still under treatment on 1st January, 1922
		Improved	Without Improvement			
	(1)	(2)	(3)	(4)	(5)	(6)
Men	96	21	27	1	6	41
Women	44	16	9	..	3	16
Totals.. . .	140	37	36	1	9	57

* See footnote to table I.

TABLE IV.—*Dispensary (Uninsured).*

	Total cases treated	Discharged from Institutions		Died	Still under Residential treatment on 1st January, 1922
		Improved	Without Improvement		
	(1)	(2)	(3)	(4)	(5)
Men	81	21	24	.	36
Women	310	84	65	...	161
Children (under 16)... ..	406	141	57	...	208
Totals	797	246	146	...	405

Under the Corporation scheme patients suffering from surgical tuberculosis have received treatment at the Manchester Royal Infirmary and Ancoats Hospital, and cases of tuberculosis of the skin have been treated at the Skin Hospital.

The types of case are summarised below.

Bones and Joints	... ..	34
Glands	... ..	12
Genito-Urinary Tract	... ..	8
Abdomen	... ..	4
Breast...	... ..	2
Bursa	... ..	1
Lung	... ..	1
Fistula in Ano	... ..	1
Lupus Vulgaris...	... ..	200
Scrofuloderma	... ..	14
Toxi-Tuberculids	... ..	1

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES.

1913.

*No Tubercle Bacilli Found.**Tubercle Bacilli Found.*

Stage	Sex	Number of Cases taken off S.B.	Number living at end of 1920	Lost sight of	Died	Sex	Number of Cases taken off S.B.	Number living at end of 1920	Lost sight of	Died
I.	M	1	1	—	—	M	—	—	—	—
	F	5	3	2	—	F	—	—	—	—
II.	M	2	1	—	1	M	1	1	—	—
	F	—	—	—	—	F	—	—	—	—
III.	M	—	—	—	—	M	—	—	—	—
	F	—	—	—	—	F	—	—	—	—
	M & F	8	5	2	1	M & F	1	1	—	—

1914.

I.	M	15	9	3	3	M	3	2	1	—
	F	13	10	2	1	F	2	1	1	—
II.	M	3	2	1	—	M	3	2	—	1
	F	2	2	—	—	F	—	—	—	—
III.	M	2	—	1	1	M	1	1	—	—
	F	—	—	—	—	F	1	1	—	—
	M & F	35	23	7	5	M & F	10	7	2	1

1915.

I.	M	20	13	5	2	M	14	11	—	3
	F	19	12	4	3	F	3	3	—	—
II.	M	16	13	2	1	M	2	1	—	1
	F	6	5	1	—	F	2	2	—	—
III.	M	1	1	—	—	M*	4	3	—	1
	F	1	1	—	—	F	—	—	—	—
	M & F	63	45	12	6	M & F	25	20	—	5

* An additional case

1916.

I.	M	16	12	1	3	M	10	7	—	3
	F	16	11	5	—	F	2	—	2	—
II.	M	4	2	1	1	M	6	2	2	2
	F	7	5	1	1	F	—	—	—	—
III.	M	1	1	—	—	M	1	—	—	1
	F	1	1	—	—	F	1	—	—	1
	M & F	45	32	8	5	M & F	20	9	4	7

TABLES SHOWING AFTER HISTORY OF ARRESTED CASES—continued

1917.

*No Tubercle Bacilli found.**Tubercle Bacilli found.*

Stage	Sex	Number of Cases taken off S.B.	Number living at end of 1920	Lost sight of	Died	Sex	Number of Cases taken off S.B.	Number living at end of 1920	Lost sight of	Died
I.	M	19	17	2	—	M	9	8	—	1
	F	11	9	2	—	F	3	1	—	2
II.	M	14	14	—	—	M	4	2	—	2
	F	7	5	2	—	F	1	1	—	—
III.	M	2	2	—	—	M	3	1	—	2
	F	—	—	—	—	F	—	—	—	—
	M & F	53	47	6	—	M & F	20	13	—	7

1918.

I.	M	18	15	3	—	M	6	5	—	1
	F*	15	12	1	2	F	5	4	—	1
II.	M	14	12	—	2	M	7	5	—	2
	F	5	5	—	—	F	—	—	—	—
III.	M	3	2	1	—	M	1	1	—	—
	F	1	1	—	—	F	2	2	—	—
	M & F	56	47	5	4	M & F	21	17	—	4

* Case excluded 1 (included last year, but in error)

1919.

I.	M	24	21	3	—	M	7	7	—	—
	F	10	9	1	—	F	3	3	—	—
II.	M	14	12	1	1	M	12	12	—	—
	F	11	9	1	1	F	10	9	—	1
III.	M	4	4	—	—	M	3	3	—	—
	F	1	1	—	—	F	1	1	—	—
	M & F	64	56	6	2	M & F	36	35	—	1

D. P. SUTHERLAND.

BAGULEY SANATORIUM.

REPORT FOR THE YEAR ENDING DECEMBER 31ST, 1921.

BY DR. H. G. TRAYER.

The number of beds available during the year was 319.

The number of patients admitted was 761, as compared with 911 in the previous year, the daily average being 307.

The table below gives the number of patients in hospital on the last day of each month of the years 1919, 1920, and 1921.

	1919	1920	1921	Difference from previous year
January	284	289	310	+ 21
February	284	302	311	+ 9
March	264	302	310	+ 8
April	269	301	314	+ 13
May	292	288	308	+ 20
June	302	295	313	+ 18
July	298	303	302	— 1
August... ..	298	309	305	— 4
September	295	304	307	+ 3
October	297	306	314	+ 8
November	281	303	301	— 2
December	244	281	291	+ 10

The increase is not due to a greater number of admissions, but to the fact that the patients are staying for a longer period.

The need for some alternative accommodation for chronic infective cases is exemplified by the number of patients who have been in the hospital for periods of one year and upwards.

On December 31st, 1921, there were 64 patients who had been in the institution for a longer period than one year.

31	had been in-patients for	1-2 years.
12	"	" 2-3 "
9	"	" 3-4 "
3	"	" 4-5 "
9	"	" over 5 years.

Statistics.

Patients in hospital, January 1st, 1921	... ..	281
Patients admitted during the year	... ..	*761
Total patients treated	... ..	1,042
Number of patients discharged	... ..	587
Number of deaths	... ..	164
Patients remaining in hospital, December 31st, 1921		291

* Includes re-admissions.

There were 7 patients admitted from the Bucklow R.D.C., 6 were discharged improved, 1 patient was discharged worse, and 2 remained in hospital on December 31st, 1921.

As in the annual statement for 1920, I have doubly classified all discharges according to the Turban Gerhardt and the International method.

When a patient has been re-admitted, he is counted as one case only in the tables relating to discharges.

Females—Age 15-24.

The number of patients discharged during the year was 61.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	1	2	..	2	..	..	Improved ..26
2	..	2	1	5	1	..	Stationary ..16
3	..	..	..	9	22	10	Worse ..13

One patient showed no evidence of active tuberculosis.

Three patients had non-pulmonary tuberculosis.

Thirty-seven patients were admitted with a positive sputum, of which twelve were negative on discharge.

Females—Ages 25-34.

The number of patients discharged was 43.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	1	2	1	1	..	..	Improved .. 29
2	..	..	2	11	..	..	Stationary .. 11
3	..	..	..	8	10	5	Worse 2

One patient showed no evidence of active tuberculosis.

Twenty-five patients were admitted with a positive sputum, of which four were negative on discharge.

Females—Ages 35-44.

The number of patients discharged during the year was 23.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	..	2	1	..	..	..	Improved .. 8
2	..	1	..	3	2	..	Stationary .. 10
3	6	18	3	Worse .. . 3

Two patients showed no evidence of active tuberculosis.

Seventeen patients were admitted with a positive sputum, which showed no change on discharge.

Females 45 and upwards.

The number of patients discharged during the year was 15.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	..	I	..	..	..	..	Improved ..II
2	5	I	..	Stationary .. 4
3	4	3	I	Worse 0

Ten patients were admitted with a positive sputum, of which 1 was negative on discharge.

Females.

Complications occurring amongst 133 cases of pulmonary tuberculosis :—

Tubercle of larynx	7	} 25
Tuberculous enteritis	...	...	...	...	...	...	I
Spinal caries	....	...	...	...	...	...	4
Tubercle of bone (other than spine)	...	...	...	...	...	...	3
Tuberculous kidney	...	...	...	...	...	...	I
Lupus	...	...	...	...	...	...	I
Valvular disease of heart (mitral)	...	...	...	...	...	...	2
Goitre	...	...	...	...	...	...	2
Rheumatoid arthritis	...	...	...	...	...	...	3
Chronic mastoiditis	...	...	...	...	...	...	I

Males—Ages 15-24.

The number of patients discharged during the year was 63.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	I	..	I	I	..	..	Improved ..36
2	..	..	..	9	..	..	Stationary ..II
3	..	3	..	I9	I2	II	Worse .. ..IO

Two patients left the hospital before a diagnosis could be made.

Two patients showed no evidence of active tuberculosis.

One suffered from non-tuberculous disease.

One was doubtful.

Of 35 patients admitted with a positive sputum 1 was negative on discharge.

Males—Ages 25-34.

The number of patients discharged during the year was 110.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	..	1	..	2	..	..	Improved 72
2	..	..	1	4	1	..	Stationary 21
3	1	..	..	30	48	14	Worse .. 10

Four patients suffered from non-tuberculous disease.

One patient left before diagnosis was complete.

Two patients showed no evidence of active tuberculosis.

Of 81 patients admitted with a positive sputum 19 were negative on discharge.

Males—Ages 35-44.

The number of patients discharged during the year was 110.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	..	1	..	1	..	1	Improved ..76
2	..	..	3	4	2	..	Stationary ..21
3	1	..	..	37	45	7	Worse 6

Two patients left before diagnosis was complete.
Three showed no evidence of active tuberculosis.
Two suffered from non-tuberculous disease.
Of 55 patients admitted with a positive sputum 4 were negative on discharge.

Males—Ages 45 and over.

The number discharged during the year was 96.

CLASSIFICATION ON DISCHARGE.

Turban Gerhardt	International						
	1	2	3	4	5	6	
1	1	3	..	..	Improved ..53
2	2	6	3	..	Stationary ..31
3	16	55	5	Worse 6

Two patients left before diagnosis was complete.
Three were suffering from other diseases.
Of 56 patients admitted with a positive sputum 5 were negative on discharge.
Complications amongst 354 cases of pulmonary tuberculosis (males).

Tubercle of larynx	...	...	...	...	...	...	...	21
Tubercle of bone (other than spine)	...	...	...	...	...	...	...	4
Spinal caries	...	...	...	...	...	...	...	2
Valvular heart disease	...	...	...	...	...	...	...	4
Malaria	...	...	...	...	...	...	...	3
Exophthalmic goitre	...	...	...	...	...	...	...	2
Cervical adenitis	...	...	...	...	...	...	...	4
Ischio rectal abscess	...	...	...	...	...	...	...	4
Tuberculous epididymitis	...	...	...	...	...	...	...	4
Appendix ulcer	...	...	...	...	...	...	...	1
Duodenal ulcer	...	...	...	...	...	...	...	1
Lupus	...	...	...	...	...	...	...	2

52

The number of deaths during the year was 164—made up of 57 females and 107 males—representing a case mortality rate of 15.73 per cent.
One patient had malignant growth of lung and liver.
Eight deaths were caused by hæmoptysis.

TABLE SHOWING COMPLICATIONS IN FATAL CASES.

Uncom- plicated	Tubercle Larynx	Tubercle Meningitis	Tubercle Enteritis	Tubercle Peritonitis	Paresis	Femoral Thrombosis	Tubercle Pericarditis	Pneumo- thorax	Bronchi- ectasis	Valvular Heart Disease	Psoas Abscess	Nephritis	Diabetes Mellitus	Malignant Disease of Lungs	Goitre
38	8	1	3	...	...	..	..	1	1	2	..	..	1	..	1
Females—57															
78	12	2	1	1	2	1	1	1	1	4	1	1	1	1	..
Males—107															

Laboratory.

Number of specimens of sputum examined:—

<i>Ziehl-Neilsen method.</i> —Number of examinations	1,629
Positive	1,002
Negative	527
<i>Antiformin method.</i> —Number of examinations	274
Positive	51
Negative	223
<i>Albumen reactions.</i> —Number of examinations	598
Positive	472
Negative	126

Other examinations.

Special examinations of urine	38
Pleural effusion	11
(In 3 specimens tubercle bacilli were found).	
Cerebro-spinal fluid	2
Stomach contents	1
Blood	1
Urethral discharge	1
Pus from cavity (post mortem)	1
Number of autopsies	49

Dental Report.

Extractions	86
Fillings	8
Scalings and dressings	24
Dentures	6
Repairs to dentures	6

The diminution in the number of dentures and repairs, and to a large extent the diminution in extractions, is due to the fewer number of patients for whom dentures have been sanctioned by the Ministry of Pensions.

NOTES FOR REPORT FOR YEAR ENDED DECEMBER 31ST, 1921.

BY DR. R. C. HUTCHINSON.

Throughout the year the accommodation available has been fully occupied. The increased daily number of patients is in great part due to the prevalence of unemployment in the period covered by this report. The tuberculous subject, as a percentage capacity worker, is always the first to fall out of employment, and is, therefore, not so anxious to leave hospital after a short course of treatment.

The grants made by the Tuberculosis Department to the families of in-patients are of material assistance in keeping patients in hospital, and, therefore, in arresting the spread of infection. It is clear that the gradual diminution in the number of the pensioned ex-service patients will raise afresh the pre-war difficulty of dealing adequately with the infectious consumptive—*i.e.*, of maintaining his dependents whilst he is voluntarily segregated in hospital. This problem is aggravated by the shortage of houses and the prevailing post-war depression of trade. It is to be regretted that the proposed extension along colony lines has been compulsorily deferred owing to the economic position. The initial cost of such an undertaking would have been recovered by the cheaper alternative accommodation thus provided for chronic infective patients, partially capable of productive work. At the present time many of these spend their limited lives undergoing periods of comparatively expensive hospital treatment. Epileptic patients and blind persons appear to be partially provided for in segregated communities—the tuberculous population, often highly intelligent, equally deserving of sympathy, and potentially capable of spreading the disease, have as yet no suitable accommodation.

It is pleasant to record that during the year the spirit of co-operation in treatment on the part of the patients has been a marked feature. This is especially notable when it is remembered that many are re-admitted cases, with disease no longer in the early or hopeful stage. This spirit makes one regret the more that it is impossible, at present, to hold out any definite prospect of transference to a community where the discipline would be less irksome, and individual effort get its due meed of reward.

Occupation.—The routine system of exercises has been carried on throughout the year, the workshops having fallen into place as an integral part of the graded labour scheme. Successful efforts have been made to popularise the

lighter forms of hand work. Experience has shown that personal encouragement is very necessary in this direction, and my thanks are specially due to the Matron, Sister Lock, and the Head Seamstress for their most unselfish help. The recent provision of a workroom for light occupations will undoubtedly be of great assistance.

NUMBER OF PATIENTS ON GRADED LABOUR DURING THE YEAR.

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Totals
35	35	49	22	54	195

Extensions.—The new day room for men was completed at the end of the year, and is now ready for occupation.

The new day room for women is also complete, as is the workroom mentioned above.

The need for providing suitable day-room accommodation for patients who remain long periods in hospital is essential, and it is confidently expected that these buildings will render administration easier, and be a great comfort to patients during bad weather.

Increased accommodation is afforded by the new shelter between wards 4 and 5, to the extent of 12 beds, thus increasing the capacity of the hospital to 331 beds.

Staff.—Five extra nurses have been added to the staff during the year. This increase was required owing to the large number of acutely ill patients, and to the necessity of shortening the hours of duty.

Cinematograph Films.—I have again to acknowledge with thanks the loan of cinematograph films from Messrs. Gaumont during the past winter.

The weekly visits of concert parties were very much appreciated by patients and staff.

My thanks are due to all members of the staff for their loyal work throughout the year.

TABLE I. SHOWING THE APPLICATION OF TUBERCULIN TO THE DIAGNOSIS OF DOUBTFUL CASES IN 1919.

NOS.	PHYSICAL SIGNS	TUBERCULIN	SPUTUM	REACTION	DIAGNOSIS	AFTER HISTORY, 1922
1. Age 26	Impaired percussion note right apex. Faint inspiratory crepitations	.001 } .005 } .005 } June, .01 } 1919 .01 }	None	Negative	Nasal obstruction. No evidence of active Tubercle	Improvement maintained. Patient at work. No active signs
2. Age 24	Impaired percussion note right apex. Prolonged expiratory murmur	.001 } Nov., .005 } Dec., .01 } 1919	None	Negative	No evidence of active Tubercle	Not traceable
3. Age 19	Impaired percussion note right apex.	.001 } .005 } Sept., .01 } 1919 .01 }	None	Negative	No evidence of active Tubercle	Working and improving
4. Age 18	Impaired percussion note over both apices. Prolonged expiratory murmur over right upper lobe	.001 } Nov., .005 } 1919	None	Negative	No evidence of active Tubercle	Keeping well, and at work. Still under observation treatment
5. Age 39	Impaired percussion note over right apex. Breath sounds weak in right upper lobe. Defective basal expansion, mitral stenosis	.001 } Nov., 1919	Sputum suspicious	Temperature never higher than 98.4, but irregular	?	Condition satisfactory. Still under treatment. Patient working. Bronchitic signs in lungs
6. Age 32	Slight impairment of percussion note at the left base. Prolonged expiration left base	.001 C.C. } .005 C.C. } June, .005 C.C. } 1919	Negative	General reaction focal pleuritic rub, right base	Tuberculous Pleurisy right base ? L	Slight loss of weight. Not fit for work. No great activity
7. Age 25	Scar and small sinus from G.S.W. chest below angle of left scapula. Percussion note impaired over left upper lobe. Fine inspiratory creps over both apices behind. Moist râles at angle of left scapula	.001 C.C. } .003 C.C. } May, .005 C.C. } 1919	? + 31-5-19	Nil.	Doubtful	No evidence of active tubercle.
8. Age 39	Physical signs of bronchitis and emphysema	.001 C.C. 18-8-19	Negative on three occasions until 12-11-20, 86 days after reaction	General reaction, local reaction, focal reaction in left lower lobe at the angle of scapula	Bronchitis & Emphysema T.B. focus in left lower lobe	Died in Baguley, February 27th, 1920.
9. Age 26	Bronchitis, both bases	.001 C.C. July, 1919	Negative on six occasions	Nil.	Chronic Bronchitis, Nasal obstruction Laryngitis	Not traceable
10. Age 34	Broncho-vesicular breathing below angle of right scapula. Defective expansion at both apices	.001 C.C. } June, .003 C.C. } July, .005 C.C. } 1919	Negative	Focal pleuritic rub. rt. base. Increase in sputum No general reaction	Positive	Condition about stationary. Not working
11. Age 26	Impaired percussion note right apex. Diminished basal expansion right. Doubtful creps at extreme apex of right lung	.001 } Sept., .005 } 1919	Negative	None	Post nasal catarrh	Keeping well and working
12. Age 32	Slight impairment of percussion note right apex. Doubtful occasional crepitations extreme apex	.001 } Nov., .005 } Dec., .01 } 1919	Negative	None	Not T.	Condition of arrest maintained
13. Age 34	Slight impairment of percussion note both apices. Some congestive crepitations at both bases	.001 } .005 } May, .01 } 1919	None	None	Not T.	Some bronchitis
14. Age 40	Fibrosis right upper lobe. Impaired percussion note. Tubular breathing occasional fine râles	.001 C.C. Nov., 1919	None	Local reaction, slight pain in right side. No general reaction	Probable silicosis right lung. Left hospital prematurely	Recent Bronchitis. Working irregularly.
15.	Bronchitis, emphysema, alcoholic gastritis	.001 C.C. Dec., 1919	Negative	Doubtful reaction. Temperature rose 6°. No local or focal symptoms	Left prematurely before diagnosis complete	Working regularly

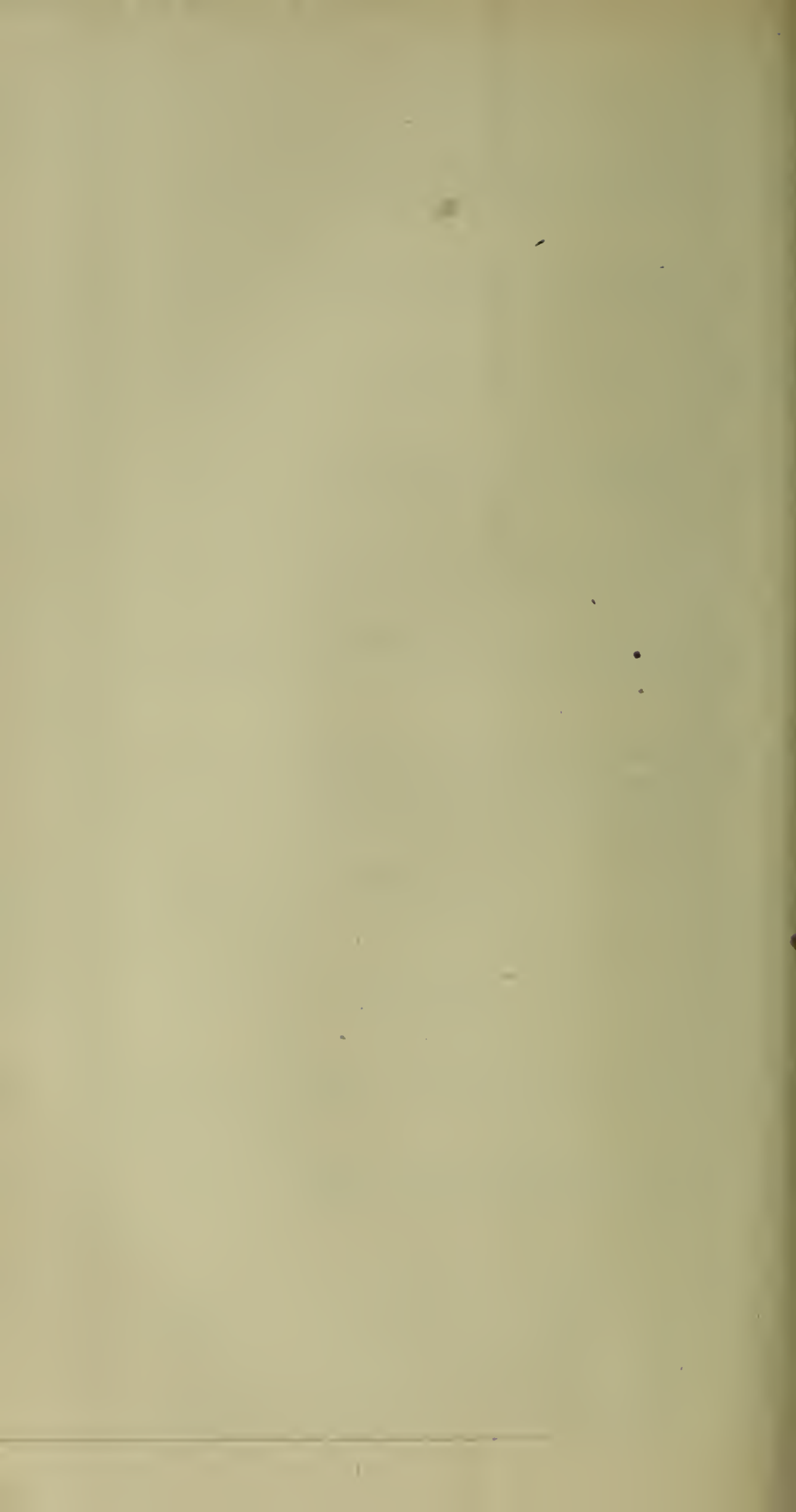


TABLE II.—SHOWING THE APPLICATION OF TUBERCULIN IN 1920 TO THE DIAGNOSIS OF DOUBTFUL CASES.

NOS.	PHYSICAL SIGNS	TUBERCULIN	SPUTUM	REACTION	DIAGNOSIS	AFTER HISTORY, 1922
1. Age 30	Impaired note left apex. Faint inspiratory crepitations, rather transient in type	.0001 } .0005 } Jan., .001 } 1920	Negative	None	Not active	Impaired resonance right upper lobe, with defective respiratory exchange. No moist sounds. No signs of activity
2. Age 26	Inspiratory rales both bases. Right more marked than left. Nasal obstruction marked. Left turbinate much enlarged. Deviated septum. Both vocal cords infected	.001 } Jan., .005 } 1920 .01 }	Negative	No definite reaction, save a temporary increase of moist sounds in right lower lobe. No rise of temperature. No local reaction	Probably not active tuberculosis	Re-admitted 1st February, 1921. Physical signs as before. Has lost 4 lbs. in weight. Signs those of general bronchitis. Active tubercle doubtful. General condition not very good
3. Age 26	Impaired percussion note. Transient crepitations right apex	.001 } Feb., .005 } 1920 .01 }	Negative	None	No evidence of active tuberculosis	Condition stationary. Under weight, but no evidence of active disease, and physical signs indefinite
4. Age 33	Impaired note left apex. Occasional scattered rhonchi generally. Post tussive creps left base. Infection of left vocal cord	.001 } March, .005 } 1920 .01 }	Negative	Creps appearing after .01 cc. O.T. in left lower lobe. No general reaction	Doubtful	Absconded before diagnosis was complete. Removed from Manchester area in 1920. This man was an old case with T.B. positive in 1914
5. Age 44	Patient obese. Impaired percussion note left apex. Signs of general bronchitis. Enlarged turbinate. Right nostril, nasal obstruction	.001 } June, .005 } 1920 .01 }	Negative	None	Bronchitis and emphysema No evidence of active tubercle	Being treated by panel doctor for bronchitis. Not working. Not examined here since October, 1920
6. Age 38	Impaired percussion note right base, below scapular angle. Fine inspiratory crepitations. X Ray.—Fine consolidation spreading from roots of both lungs, especially right. Probably not active	.001 } June, .005 } 1920 .01 }	Negative	None	Not active tubercle	Died December 25th, 1920
7. Age 27	Tremors. Pulsation of arteries. Slight enlargement of thyroid. Impairment of percussion note right upper lobe and right root. Inspiratory phase rather harsh	.001 } Nov., .005 } 1920 .01 }	Negative	Temperature: 100 after .001. No focal or local reaction. No reaction after .005 cc.	Hyperthyroidism. No evidence of active tubercle	No evidence of active tubercle
8. Age 28	Percussion note right apex. Occasional post tussive rales right apex. Generalised bronchitis	.001 } July, .005 } 1920	Negative	None	Doubtful	Patient left prematurely, before diagnosis was complete. Has left Manchester. Address not known
9. Age 40	Emphysema. Transient creps. Right apex. Nasal obstruction. Enlarged turbinates	.002 } Aug., .005 } 1920 .015 }	Negative	None	Not active tuberculosis	Fibrosis right upper lobe. No moist sounds. Quiescent disease. Condition fair
10. Age 38	Impairment of percussion note, right upper lobe. Expiratory phase prolonged. X Ray.—Root shadow right side. Considered suspicious only	.001 } Sept., .002 } 1920 .002 }	None	None, except local reaction after second and third doses	Not active tuberculosis	Lost 9 lbs. weight, but no signs of active tuberculosis. Slight harshness right upper lobe
11. Age 38	Scattered catarrhal signs in both lungs. Some diminution in expansion, right base. Rhinitis, pharyngitis. Both vocal cords infected in posterior two-thirds of their length	.001 } Nov., .005 } 1920 .01 }	Negative	None	No evidence of active Tuberculosis	Slight apical fibrosis. No active signs
12. Age 29	Impairment of percussion note, right apex. Fine rales in both lungs. Deviated nasal septum. Blood pressure 170. Accentuated aortic, 2nd sound	.001 } Nov., .005 } 1920 .01 }	Negative	None, except headache after second and third doses	No evidence of active tuberculosis	No knowledge of any fresh symptoms. Several appointments made with this patient, and he failed to attend
13. Age 36	Bronchitis and emphysema. Dilated stomach	Nil	None	None	Pyloric obstruction. Dilated stomach	Transferred to Manchester Royal Infirmary for observation. No signs of pulmonary tubercle
14. Age 27	Generalised dry rhonchi throughout both lungs. Percussion note impaired left apex, behind	.001 } .005 } 1920 .01 }	Negative	None	No evidence of active tuberculosis	Lost 13 lbs. in weight. Extensive signs of bronchitis. Sputum positive 17th January, 1922

Observation beds.—The table attached shows the results of the examination of patients tested with tuberculin in 1919 and 1920. In each case the after-history column has been completed by the Senior Tuberculosis Officer.

Tested 1919	Condition in February, 1922
No reaction to tuberculin 10	No evidence of active tubercle ... 6 Probably not active tubercle ... 2 Not traced 2
Doubtful reaction... .. 1	Working and unable to attend ... 1
Very doubtful reaction 1	Probably non-tubercular silicosis... 1
Positive reaction 3	Positive tuberculosis 1 With signs, but not active 1 Dead... .. 1
Tested 1920	Condition in February, 1922
No reaction to tuberculin 11	No evidence of active tubercle ... 6 Probably not active tubercle ... 3 Positive tuberculosis 1 Not traced 1
Doubtful reaction... .. 2	Not active tubercle 1 Active tubercle doubtful 1
Positive reaction 1	Not traced 1

ABERGELE SANATORIUM.

REPORT FOR THE YEAR ENDING DECEMBER 31ST, 1921, BY DR. A. G. M. GRANT,
MEDICAL SUPERINTENDENT.

During the year ending December 31st, 1921, 93 patients were admitted to the Sanatorium, including 1 re-admission, and 92 were discharged. In addition, 1 child was discharged from Pen-y-Coed Bungalow after a residence of 1 year 8 months, with the tuberculous lesion (lower jaw) healed. There was 1 admission.

Ten children are maintained at Pen-y-Coed suffering from surgical tuberculosis, and those at present under treatment have been in-patients for periods varying

from two months to five years. To facilitate the regulating of the sun treatment a wooden framework roofed with roller blinds was erected on the verandah facing south-west. Throughout the summer, when great heat was experienced, care was necessary in preventing discomfort through over-exposure. The provision of the roller blinds met this need and allowed the children to remain in the open, but protected from the strong glare of the sun.

Table I. shows a classification according to age and sex of the cases under treatment :—

Ages	Males		Females	
	Admitted	Discharged	Admitted	Discharged
0 to 4	..	..	..	..
5 „ 14	1	..	..	1
15 „ 24	16	22	5	6
25 „ 34	25	20	9	7
35 „ 44	19	14	5	6
45 „ 64	13	16	1	1
65 +	..	..	..	..
Total	74	72	20	21

Table II. shows a classification of the immediate results of treatment in the discharged pulmonary cases.

(a) Patients in whose sputum tubercle bacilli were found :—

	No. of Cases	Disease Quiescent	Much Improved	Improved	Stationary or Worse	Died
Stage i. ..	2	1	..	1	..	..
„ ii. ..	3	..	2	1	..	..
„ iii. ..	27	1	7	9	10	..
Total! ..	32	2	9	11	10	..

(b) Patients in whose sputum tubercle bacilli were not found :—

	No. of Cases	Disease Quiescent	Much Improved	Improved	Stationary or Worse	Died
Stage i. ..	33	23	6	3	I	..
„ ii. ..	14	8	5	..	I	..
„ iii. ..	9	2	5	I	I	..
Total ..	56	33	16	4	3	..

One patient sent for observation was considered not to be tuberculous, 1 to be suffering from chronic bronchitis, 1 bronchiectasis, and 1 was in residence too short a time to allow of classification.

Table III. shows the result of treatment in the discharged tuberculous patients in relation both to their working capacity and to any alteration in their lung condition from the anatomical standpoint (Turban-Gerhardt classification).

Patients in whose sputum tubercle bacilli were found.

(a) Patients discharged with working capacity fully restored :—

Males						Females					
Stage on Admission	Number treated	Stage on Discharge				Stage on Admission	Number treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
I	I	...	I	...	...	I	...	...	...	...	...
2	...	...	...	...	...	2	...	...	...	...	...
3	I	...	...	...	I	3	...	...	...	...	...
Total ...	2	...	I	...	I	Total ...	...	...	...	...	...

(b) Patients discharged with working capacity incompletely restored :—

Males						Females					
Stage on Admission	Number treated	Stage on Discharge				Stage on Admission	Number treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
I	I	...	I	...	...	I	...	...	...	...	...
2	2	...	...	2	...	2	I	...	...	I	...
3	15	...	...	...	15	3	I	...	...	...	I
Total ...	18	...	I	2	15	Total ...	2	...	...	I	I

(c) Patients discharged without restoration of working capacity :—

Males						Females					
Stage on Admission	Number treated	Stage on Discharge				Stage on Admission	Number treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
1	...	...	...	...	...	1	...	...	...	...	...
2	...	...	...	...	...	2	...	...	...	...	...
3	6	...	...	...	6	3	4	...	...	...	4
Total ...	6	...	...	...	6	Total ...	4	...	...	...	4

Patients in whose sputum tubercle bacilli were not found.

(a) Patients discharged with working capacity fully restored :—

Males						Females					
Stage on Admission	Number treated	Stage on Discharge				Stage on Admission	Number treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
1	14	6	8	...	...	1	9	2	7	...	...
2	8	3	1	4	...	2	...	...	...	...	...
3	2	...	...	...	2	3	...	...	...	...	...
Total ...	24	9	9	4	2	Total ...	9	2	7	...	...

(b) Patients discharged with working capacity incompletely restored :—

Males						Females					
Stage on Admission	Number treated	Stage on Discharge				Stage on Admission	Number treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
1	6	...	6	...	...	1	3	1	2	...	...
2	4	...	1	3	...	2	1	...	...	1	...
3	5	...	...	...	5	3	1	...	...	...	1
Total ...	15	...	7	3	5	Total ...	5	1	2	1	1

(c) Patients discharged without restoration of working capacity :—

Males						Females					
Stage on Admission	Number treated	Stage on Discharge				Stage on Admission	Number treated	Stage on Discharge			
		0	1	2	3			0	1	2	3
1	1	...	1	...	...	1	...	...	...	...	...
2	1	...	...	1	...	2	...	...	...	...	...
3	1	...	...	...	1	3	...	...	...	...	...
Total ...	3	...	1	1	1	Total ...	...	...	...	...	...

An endeavour was made to induce artificial pneumothorax in 6 patients, *i.e.*, over 4 per cent. of those under treatment during the year. One of these had already undergone a course of artificial pneumothorax treatment, and had had the last refill two years previously. The lung was found to have re-expanded, and the pleural cavity had become obliterated. A continuance of the treatment was thus not possible, but the patient did well under the ordinary Sanatorium regime, and was discharged with the disease quiescent. In 2 others no free pleural space was found on 2 attempts, and the treatment was abandoned. Both of these cases are still in-patients, and are now improving, but had it been possible to induce a good collapse of the affected lung it is most probable their progress would have been more rapid. Of the remaining 3, the collapse in 1 was very incomplete and no accruing benefit was noticeable. In the other 2, the collapse was very satisfactory, and the improvement has been marked. Both are still in the Sanatorium and the formerly troublesome cough has disappeared and the sputum has greatly diminished. After the treatment is fully established refills are given about every 3 weeks, and 1000 c.c. are not exceeded, as small amounts at short intervals seem to have the most beneficial effect. The value of the treatment appears to depend on the degree of collapse obtained. No definite benefit has been noticed from a limited pneumothorax, while in those cases where it has been complete, or nearly so, the effects have been striking.

The general routine of treatment was based, as in previous years, on graduated exercise and rest. Patients were employed, as far as possible, on work that was useful, and they were apportioned certain tasks for which they were made responsible. In this way an interest was created and a pride was manifested in the improvements they had effected. A large quantity of stone was broken for road mending, rustic seats were made and placed on different walks throughout the estate, and a considerable amount of painting was done, such as gates, implements, carts, etc.

Of the discharged patients, 74 gained in weight, the average gain being 9 lbs. 11 ozs. ; 11 lost in weight, with an average loss of 2 lb. 7 ozs. ; while 7 were not weighed. During the summer the average weekly gain in weight was small, and in the two months when the heat was most intense, *viz.*—June and July, it reached its minimum—2·7 ozs. and 2 ozs. respectively ; while in August, when the weather became cooler, the average gain rose to 10 ozs. per week.

A series of observations were made as to the effect of tuberculosis on the polymorphonuclear leucocytes of the blood. This investigation was first carried out by Arneth, and his count was based on the number of lobes into which the nuclei are divided, resulting in 5 classes being tabulated. A normal count of 100 neutrophil leucocytes, arranged as to their nuclear division, averaged :—

Cells of—Class i. 5	Class ii. 35	Class iii. 41	Class iv. 17	Class v. 2
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or grouping the cells of Classes i. and ii. together, and Classes iii., iv., and v. together, a ratio of 40 to 60. An acute infection increases the number of immature cells, *i.e.*, those with one or two lobed nuclei, and produces what is described as a deviation to the left. Tuberculosis has a definite effect on the count; the quiescent cases approach the normal, while the more active show a decided left-hand "drift." A number of records in any one case may thus help in prognosis, and may also assist in estimating the degree of activity, provided other causes which might affect the count have been eliminated.

The following is a record of the blood counts of 50 patients at the Sanatorium, arranged according to the Turban-Gerhardt classification :—

STAGE I.

Case	Class i.	Class ii.	Class iii.	Class iv.	Class v.	Hæmoglobin Percentage	Remarks
1	10	26	46	16	2	80	Quiescent.
2	7	32	47	12	2	80	Quiescent.
3	8	32	41	19	0	90	Quiescent.
4	13	35	37	14	1	80	Quiescent.
5	12	29	43	14	2	75	Progress very satisfactory
6	14	36	44	6	0	90	Ditto.
7	19	32	40	9	0	90	Ditto.
8	25	45	24	6	0	75	Progress fairly satisfactory
9	40	28	32	0	0	75	Ditto.
10	34	36	24	6	0	85	Neurasthenic.
11	24	49	24	3	0	75	Suffers from chronic nas catarrh.
12	38	30	30	2	0	65	T.B. testicle.
13	28	46	25	1	0	90	Disease active.
14	46	39	15	0	0	85	Progress fairly satisfactory
15	21	39	35	5	0	75	Progress satisfactory.
16	14	43	33	9	1	90	Ditto.
17	23	37	37	3	0	90	Neurasthenic.

STAGE II.

Class i.	Class ii.	Class iii.	Class iv.	Class v.	Hæmoglobin Percentage	Remarks
24	41	29	4	2	75	Progress satisfactory.
18	33	39	9	1	—	Ditto.
19	36	30	15	0	80	Complicated by Bronchitis.
19	30	32	16	3	80	Is having Art. Pneumothorax.
16	32	42	9	1	80	Old pleural affection. Progress good.
30	37	31	2	0	90	Progress satisfactory. Atonic dyspepsia.
18	43	30	9	0	75	Ditto. Subject to headaches.
17	41	35	6	1	90	Disease active.
22	37	38	3	0	75	Progress satisfactory. Suffering from depression.
10	50	38	2	0	80	Disease slightly active.
42	32	26	0	0	75	Ditto.
49	32	19	0	0	90	Pleural infiltration.
19	31	44	5	1	75	Progress fairly satisfactory.
36	52	12	0	0	95	Progress satisfactory.

STAGE III.

Class i.	Class ii.	Class iii.	Class iv.	Class v.	Hæmoglobin Percentage	Remarks
46	42	12	0	0	—	Disease very active.
66	24	10	0	0	75	Ditto.
24	56	20	0	0	80	Disease slightly active.
35	45	18	2	0	85	Progress fairly satisfactory.
30	42	27	1	0	90	Ditto.
23	42	30	5	0	75	Ditto.
41	33	21	5	0	80	Ditto.
32	51	16	1	0	80	Is having Art. Pneumothorax.
38	41	19	2	0	90	Progress satisfactory. Cavity formation.
45	42	13	0	0	65	Disease active.
12	34	46	8	0	80	Progress satisfactory.
29	36	30	5	0	80	Ditto. Chronic nasal catarrh.
48	39	12	1	0	75	Disease active.
61	23	16	0	0	80	Ditto.
39	43	16	2	0	80	Ditto.
37	43	20	0	0	65	Ditto.
49	38	13	0	0	75	Ditto.
32	42	25	1	0	70	Ditto.
3	46	47	4	0	75	Extensive pleural thickening.

In certain instances the Arneth reading does not correspond to the clinical state, for which no evident reasons can be adduced. Any acute disease has a similar effect on the count as tuberculosis, and the discrepancy between the blood examination and the lung condition may occasionally be explained by some superadded infection. The following examples may be given :—

(1) Malignant disease of the lung ...	50	32	18	0	0
(2) Influenza, before attack ...	14	36	44	6	0
„ during attack ...	39	40	21	0	0
(3) Acute exacerbation of phthisis—					
before... ..	24	41	29	4	2
during	35	49	15	1	0

The fact that these extraneous causes prove disturbing factors detracts from the value of the count, and renders it misleading if such be unsuspected.

The blood films were stained with Leishman-Wright stain.

Blood pressure observations were continued from last year and bore out the results which have already been noted. A fall in the systolic level after walks of moderate length was frequently noticed, and this was explainable by the steep gradients. The earlier cases seem to benefit by these regulated walks and soon develop a freer and easier breathing. The strain is, however, too severe for advanced cases, and the hilly nature of the ground renders the place unsuitable for them.

A billiard table was provided for the male patients, which has proved a great acquisition, and has been much appreciated.

A course of lectures was given to the nursing staff.

Farm.—Extensive improvements have been effected on the farm buildings during the past few years, the latest being the renovating of the steadings at Ysgeirallt. The dairy cattle are now housed at Pen-y-rallt, and the shippens are proving to be very satisfactory.

Forest.—18,000 trees were planted during the year, and since planting was begun in 1917, 118,000 pines have been placed.

An ample supply of milk, eggs, and vegetables for the needs of the Sanatorium was obtained from the farm and garden.

Of the 2 S. J. cases, 1 had no signs of active tubercle, the other died of chronic nephritis and uræmia, there being no signs of active tuberculosis.

The unclassified case stayed in hospital only a few hours.

List of complications and concurrent diseases.

Bone and joint tubercle	...	...	...	...	...	...	...	2
Bronchitis and emphysema	...	...	...	...	...	...	...	9
Laryngitis (tuberculous)	...	...	...	...	...	...	...	6
Laryngitis (chronic)	...	...	...	...	...	...	...	3
Spinal caries	...	...	...	...	...	...	...	1
Atonic dyspepsia	...	...	...	...	...	...	...	7
Tuberculous testis and epididymis...	...	...	...	...	...	...	...	3
Tuberculous enteritis	...	...	...	...	...	...	...	2
Hæmoptysis	...	...	...	...	...	...	...	3
Tuberculous meningitis	...	...	...	...	...	...	...	1
Tuberculous adenitis (neck)	...	...	...	...	...	...	...	1
Nephritis	...	...	...	...	...	...	...	1
Lateral sclerosis of the spinal cord	...	...	...	...	...	...	...	1

The following list shows the results of the treatment :—

No active tuberculosis	...	...	...	...	...	...	...	1
Disease arrested	...	...	...	...	...	...	...	0
Improved	...	...	...	...	...	...	...	28
In statu quo	...	...	...	...	...	...	...	19
Worse	...	...	...	...	...	...	...	15
Treatment discontinued	...	...	...	...	...	...	...	2
Died	...	...	...	...	...	...	...	27
								—
Total	...	...	...	...	...	...	...	92

The mortality rate is a severe one, being 29 per cent., as compared with 13 per cent. at Monsall for 1920, and 13·3 per cent. at Baguley for 1920.

A routine resembling the routine of the acute wards at Baguley Sanatorium has been adopted as far as possible, rest time before meals has been introduced, and patients who were fit were made to help in the ward work.

No patient was allowed outside the fenced-off ward grounds into the main hospital grounds, and no graduated walks could be instituted. This measure was necessary in view of the character of the hospital, and no case of cross infection occurred during the year.

A one-day pass was given every six weeks for patients who were fit.

Clinical records were kept as in Baguley, and I am indebted to Dr. Hutchinson for kindly supplying me with the necessary forms.

Arrangements were made for X-Ray examination of patients, and 2 patients were X-rayed.

Treatment.

No active treatment could be undertaken, as all the patients were either in a very advanced stage of the disease or chronic cases of long standing, and in no case could the arrest of the disease, beyond some temporary improvement, be hoped for.

For many of the patients nothing else could be done but to make their last days comfortable.

There were no cases suitable for treatment by artificial pneumothorax.

Chronic cases were made to help in the ward work, viz. :—polishing brasses, cleaning knives and forks, sweeping the recreation room, etc.

When the patient reached the stage of light ward work, and if otherwise suitable, he was recommended for transfer to Baguley, where he could carry on the “grade-work.”

The recreation room was fully used—in fine weather it was opened at 4-30 p.m., so as to encourage the patients to stay in the open and in the sunshine.

Several lectures were given by me dealing with the nature of tuberculosis, simple rules of hygiene, and the patient's part in the fight against tuberculosis.

I wish to express my thanks to the City Missionary, Mr. Jenkins, for delivering lectures of general interest, and to the Manchester University Students for giving a most enjoyable concert.

The Corporation tip, situated just outside the ward, was, during the hot months, very offensive at times ; moreover, the ward was infested with flies, and no ordinary measures would exterminate them.

In conclusion, I wish to express my gratitude to Miss Stonehouse, Sister in charge of the ward, who, by her skill, patience, and tact rendered great services to the patients, and was of invaluable help to me.

MONSALL FEVER HOSPITAL.

REPORT BY Dr. DICKINSON, Acting Medical Superintendent.

REPORT FOR 1921.

The number of patients admitted was 4,472, an increase of 573 on the preceding year.

The average daily number of patients in hospital was 490.5, as against 431.3 in 1920.

The average length of stay in hospital for all patients was 41.8 days.

The average daily number of resident officers, nurses, and servants was 221.

A block was opened for Pulmonary Tuberculosis on May 17th and closed on December 17th, 1921. During this period 89 patients were admitted, of whom 62 were discharged and 27 died, giving a case mortality rate of 30.3 per cent. This does not include 7 cases in hospital the first 6 days of the year.

The fatality rate for all cases was 4.6 per cent., as against 4.9 in 1919.

Thirty-eight of the deaths occurred within 48 hours of admission.

Eight nurses contracted Scarlet Fever, and 2 each Diphtheria and Varicella. One nurse died from Scarlet Fever.

Twenty-nine probationers left during or at the end of their trial months; twenty-four finished their training, 12 of whom proceeded to a General Hospital.

SCARLET FEVER.

The number of patients admitted was 3,173, which is 692 more than in 1920.

The type of disease, generally speaking, was mild; 54 deaths occurred, giving a fatality rate of 1.8 per cent., as against 1.5 in 1920. The rate was higher in females than in males.

Seven patients died within 48 hours of admission.

The average stay in hospital for patients who recovered was 44.9 days; for fatal cases, 16.2.

A swab was taken from the nose and throat of all Scarlet Fever admissions.

"RETURN" CASES.

The number of alleged infecting cases, which gave rise to 157 secondary cases out of a total of 3,002 discharges, was 122. This gives a "return" case rate of 4.06 per cent., as against 3.3 in 1920.

If the interval which elapsed between the arrival home of the infecting patient and the onset of the "return" case be limited to a month, the rate becomes 3.3 per cent., as against 3.07 in 1920.

The average number of days ill of the infecting cases was 48.9, and the average interval in days between the return home of the patient and the onset of the "return" case 18.1, the extremes being 3 and 87 days.

Ninety-four of the 122 infecting patients had uncomplicated attacks.

Antiseptic treatment of the nose and throat was carried out where necessary in cases of Scarlet Fever.

DIPHTHERIA.

Six hundred and forty-four patients were admitted, being 64 less than in 1920.

Fifth-three deaths occurred, giving a fatality rate of 8.9 per cent., as against 9 in 1920. The rate was higher in males than in females.

Twenty-one of the deaths took place within 48 hours of admission.

The larynx was found to be involved on admission in 12.4 per cent. of the cases.

Tracheotomy was performed on 30 patients, of whom 8 died, giving a fatality rate of 26.6 per cent. Of the deaths, 5 occurred within 48 hours of admission.

The average stay in hospital for patients who recovered was 41.5 days; for fatal cases, 5.2.

THE SCHICK TEST IN DIPHTHERIA.

This is a test to determine whether or not an individual, if exposed to infection by diphtheria, is liable to contract the disease. The injection into the skin of a minute dose of diphtheria toxin is followed, in the non-immune, by a specific reaction: the skin at the site of injection becomes red; this persists for about a week, and is followed by brown pigmentation and scaling. The importance of

the test lies in the fact that those found to be susceptible can be rendered immune by injection of a mixture of diphtheria toxin and antitoxin. As the result of experiments carried out by the Health Department of the City of New York, where thousands of children have been tested daily, and, where necessary, immunised, it has been found that absolute immunity can be conferred, and this may possibly continue for life.

At the suggestion of Dr. Niven, tests were carried out at Monsall. In all, 1,200 cases were Schick-tested. An analysis of the results enabled one to arrive at certain conclusions, the more important being :—

(a) Susceptibility to diphtheria is greatest from the 2nd to the 5th year of life.

(b) Scarlet fever cases are slightly more susceptible to diphtheria than are normal individuals.

(c) Natural immunity to diphtheria is transmitted from the mother to her offspring.

(d) In cases of diphtheria, the larger the dose of diphtheria antitoxic serum given, the longer is the duration of passive immunity thus conferred.

A start was made to actively immunise, by toxin antitoxin injection, those members of the nursing staff shown to be non-immune.

So far 12 nurses have been thus protected, and by the end of the current year (1922) it is hoped that all those who are Schick-positive will have been immunised.

ENTERIC FEVER.

The number of admissions was 59, or 12 more than in 1920.

Eight patients died, giving a fatality rate of 13·7, as against 14·9 in 1920.

The average stay in hospital for patients who recovered was 46·7 days ; for fatal cases, 7·1.

Before discharge from hospital the stools and urine of all patients were submitted to bacteriological examination to ascertain the absence of the Typhoid Bacillus.

ERYSIPELAS.

The admissions numbered 143, a decrease of 34 on the previous year.

Twelve deaths occurred, giving a fatality rate of 8·1 per cent., as against 4·1 in 1920.

The average stay in hospital for patients who recovered was 36·7 days ; for fatal cases, 8·4.

PUERPERAL FEVER.

Seventy-eight patients were admitted, a decrease of 32 on 1920.

In 47 instances the infant was admitted with the mother.

Eleven patients died, giving a fatality rate of 14·3 per cent. Two deaths took place within 48 hours of admission.

The average stay in hospital for patients who recovered was 36·4 days ; for fatal cases, 10.

CEREBRO-SPINAL FEVER.

Four patients were admitted and 4 died, giving a fatality rate of 100 per cent., as against 53·3 per cent. in 1920.

OTHER DISEASES.

In this class are included cases of Measles, Rubella, and Varicella, patients whose illness was incorrectly diagnosed, certain cases of non-notifiable disease, and infants admitted with their mothers.

Thirty deaths occurred, giving a fatality rate of 10·1 per cent. Six deaths took place within 48 hours of admission.

The causes of death were Epidemic Diarrhoea 6, Abortion 5, Tubercular Meningitis 3, Premature Birth 3, Influenza and Meningitis, Broncho-Pneumonia, Spleno-medullary Leucocythæmia, Cachexia, Measles, Pulmonary Tuberculosis (admitted as Scarlet Fever), Chronic Otitis Media, Encephalitis Lethargica, Acute Gastro-enteritis, Malignant Endocarditis, Cerebro-Spinal Meningitis, Meningitis, Lupus Erythematosus, each 1 death.

The average stay in hospital for patients who recovered was 42·6 days ; for fatal cases, 13·9.

MALNUTRITION CASES.

The ten cots at the Crèche were full practically the whole year with children suffering from Malnutrition.

Eight cases were in hospital at the end of 1920, 7 cases were admitted, 14 were discharged in a good state of health, and 1 remained at the end of the year.

LABORATORY REPORT.

All the necessary media were prepared by the Dispenser at the hospital. The number of Bacteriological examinations performed was as follows:—

Cultures from Nose, Throat, and Ear	11,748
„ Vagina	3
„ Uterus	14
Widal reactions.	85
Bac. Enteritidis reactions	14
Typhoid Stools	78
„ Urine	80
Examination of Spinal fluid	22
„ Pus	9
„ Sputum	138
Smears from Throat	9
	<u>12,200</u>

STATISTICAL SUMMARY FOR THE YEAR 1921.

Remaining in hospital on January 1st, 1921	467
Patients admitted during 1921	<u>4,472</u>
	<u>4,939</u>
Recovered and died during 1921	4,324
Remaining in hospital on December 31st, 1921 . . .	<u>615</u>
	<u>4,939</u>
Total number of deaths during 1921	199
Net mortality	4.6%
Of the deaths, 38 occurred within 48 hours of admission	19.09%
Daily average number of patients	495.26
„ „ officers, nurses, and servants	221
Average stay of patients (in days)	41.8

TABLE SHOWING NUMBERS OF VARIOUS DISEASES TREATED, 1921.

DISEASE	Remaining in Hospital, Jan. 1st, 1921.	Admitted	Discharges and Deaths	Remaining in Hospital, Dec. 31st
Scarlatina	321	3173	3056	438
Diphtheria	81	644	594	131
Enteric Fever.....	9	59	58	10
Erysipelas	21	143	149	15
Puerperal Fever.....	11	78	77	12
Other Diseases	24	375	390	9
Total.....	467	4472	4324	615

COMPLICATIONS IN SCARLET FEVER.

Complication	Number	Percentage
Rhinorrhœa in Convalescence..	157	5'22
Otorrhœa	160	5'32
Nephritis	18	0'59
Albuminuria of Convalescence..	200	6'6
Adenitis and Abscess	15	0'49
Endocarditis	5	0'16

DIPHTHERIA.

AGE OF PATIENTS	MALE			FEMALE			TOTAL		
	Cases	Died		Cases	Died		Cases	Died	
Under 1 year ...	3	...		3	1		6	1	
1 to 2 years ...	19	5		15	1		34	6	
2 " 3 " ...	8	1		13	...		21	1	
3 " 4 " ...	20	4		22	1		42	5	
4 " 5 " ...	38	2		40	9		78	11	
5 " 10 " ...	104	14		119	8		223	22	
10 " 15 " ...	53	2		56	2		109	4	
15 " 20 " ...	19	...		24	...		43	...	
20 " 25 " ...	3	...		8	1		11	1	
25 " 30 " ...	1	...		9	1		10	1	
30 and over ...	5	...		12	1		17	1	
Total	273	28	Mor- tality percent.	321	25	Mor- tality percent.	594	53	Mor- tality percent.

25 deaths occurred within 48 hours of admission.
Of the deaths, 4 were complicated by other co-existent diseases.

TRACHEOTOMY CASES.

AGE OF PATIENTS	NO. OF PATIENTS	DIED	MORTALITY PER CENT.
Under 1 year .....	...	...	...
1 to 2 years	3	1	33'3
2 " 3 "	5	1	20'0
3 " 4 "	4	1	25'0
4 " 5 "	8	2	25'0
5 " 10 "	10	3	33'0
10 " 15 " .....	...	...	...
15 and over .....	...	...	...
Total	30	8	26'6

Of the deaths, 5 occurred within 48 hours of admission.

ENTERIC FEVER.

TABLE SHOWING INTERVAL ELAPSING BETWEEN DATE WHEN PATIENT WAS FIRST SEEN BY A MEDICAL MAN AND THE DATE OF ADMISSION TO HOSPITAL; ALSO SHOWING DAY OF DISEASE ON ADMISSION.

DAYS' INTERVAL	Interval between admission and date when Patient was first seen by a Medical Attendant		Day of disease on admission			Day of disease on admission	
	All Cases	Deaths				All Cases	Deaths
Sent in on same day...	1	...	1st day	...	...	...	...
1 day interval ...	2	1	2nd	„	...	2	1
2 days' „ ...	3	...	3rd	„	...	1	...
3 „ „ ...	2	...	4th	„	...	3	...
4 „ „ ...	7	2	5th	„	...	1	...
5 „ „ ...	4	1	6th	„	...	2	...
6 „ „ ...	6	1	7th	„	...	3	...
7 „ „ ...	5	1	2nd week	...	...	29	4
8 „ „ ...	6	...	3rd	„	...	14	2
9 „ „ ...	2	...	4th	„	...	3	1
10 „ „ ...	2	...	5th	„	...	...	...
Over 10 days' interval	18	2	Over 5th week	...	...	...	...
Total ...	58	8	.....			58	8

OTHER DISEASES.

Certified as	Actual Disease	No.
Scarlet Fever	Erythema	21
	Nil	17
	Tonsillitis	5
	Varicella	2
	Rubella	2
	Urticaria	2
	Carried forward	49

Certified as	Actual Disease	No.
	Brought forward	5
	Abscess (Neck)	1
	Cellulitis	1
	Carbuncle	1
	Lupus Erythematosus	1
Total 9, or 5.6 per cent.		.

Certified as	Actual Disease (the same or other)	No.
Varicella	Varicella	6
Meningitis	Tubercular Meningitis	1
	Acute Gastro-Enteritis	1
Epidemic Diarrhœa	Epidemic Diarrhœa	11
Dysentery	Nil	1
	Diarrhœa	1
	Mucous Colitis... .. .	1
Influenza	Influenza	1
"With Mother"	"With Mother"	61
Measles	Measles	6
Malnutrition	Malnutrition	14
For Observation	Nil	6
Encephalitis Lethargica	Encephalitis Lethargica	3
	Chronic Otitis Media	1
	Malignant Endocarditis	1
	Nil	1
	Tubercular Meningitis	1
	Cerebro-Spinal Meningitis	1
Rubella	Rubella	7
Cerebro-Spinal Fever	Cerebro-Spinal Fever	4
	Tubercular Meningitis	1
	Meningitis... .. .	1
	Influenza	1
	Lobar Pneumonia	1

Total 133.

REPORT OF LIEUT.-COL. J. W. BRITTLEBANK ON THE WORKING OF THE MODEL
MILK CLAUSES. AND ON THE SUPERVISION OF THE MILK SUPPLY.

Introductory Remarks by the Medical Officer of Health.

As regards the working of the model milk clauses, notwithstanding the efforts made to improve the conditions in outside farms, the report shows no material improvement.

I made a considerable effort to improve the keeping of milk in small milk shops, the proper carrying of milk, and its suitable storage and handling at home. The covering of milk with suitable covers in the shops was at one time well enforced.

Small shopkeepers were made to store their goods suitably, and to keep their wares so as to exclude dust.

By resolution of the Sanitary Committee, and as a result of a case in Court greengrocers were made to abstain from the sale of milk.

The conditions as regards the storage of milk, cleaning of utensils, cleaning of premises, mode of sale, etc., were laid down, and partly enforced, under my personal supervision. But the inspectorate was inadequate, and, as soon as personal interest was diverted, conditions relapsed. I also, personally, worked out the conditions for the manufactory and sale of ice cream by small people and, so far as possible, enforced them. The same observations apply.

Without an adequate intelligent, alert, and vigorous inspectorate, good conditions cannot be maintained.

I agree, generally, with Mr. Brittlebank's remarks in regard to the milk dealers proper, but, I am of opinion that they should be held responsible, all over the country, for the condition of the milk sold, as only in this way will it be possible to secure proper conditions on the producing farms.

It may be hoped, from his statement, that the essays now being made by some milk dealers to clean and pasteurise their milk in the most approved methods will be crowned with success. There does not seem any reason why the bulk of the milk should not be sold in bottles.

MILK AND TUBERCULOSIS.

BY J. W. BRITTLEBANK, C.M.G., M.R.C.V.S., D.V.S.M. (Vict.).

The total number of farmers in the City at the commencement of the year was 76.

In the course of the period covered by this report the number of visits paid to farms is 382, and 678 inspections of cowsheds were carried out.

There is little change of consequence to report. The number of premises within the City boundaries on which milking cattle are kept gets less each year, the growth and development of the City pushing the industry of cow-keeping further out. In some respects this is not very satisfactory, as the number of cows immediately under close supervision inevitably decreases as time goes on, and the proportion of safe milk so produced is less in consequence.

For the major portion of the period there was little to disturb the cow-keepers, the consistently high price maintained for milk made the business quite a lucrative one, despite the high price of cows; but during the earlier months of this year the outbreak of foot and mouth disease extended to the City, and, in all, four farms were affected.

The first outbreak occurred on the premises of a cattle dealer, in some cattle purchased a few days earlier in the North of England, and two further outbreaks followed at farms to which cattle had been sold in the interval.

The last outbreak occurred at a later period, and had no connection with the previous ones, nor could any source of infection be traced. The farm is an isolated one, and no fresh stock had been purchased for a long period prior to the outbreak. One unfortunate result of this first outbreak has been that the cattle dealer mentioned above has given up his city premises, and I particularly regret this, as he supplied a large number of cows to the cow-keepers, dealt in a really excellent class of animal, and was of great assistance to me in the earlier years when I was getting rid of many of the old worn-out animals which used to be such a prominent feature of City cow-keeping.

On the whole the farmers have maintained a very satisfactory standard of cleanliness, and there has been little to complain of from the point of view of cleanliness of the cowsheds and the cows.

The work of reconstruction of one farm was commenced during the year, a most comprehensive scheme for converting an old insanitary farm into a modern and easily-cleaned dairy farm being embarked upon. The farm is the property of Councillor Harrison, and he is to be congratulated for the public-spirited manner in which he has undertaken his responsibilities.

At another farm, the old cowshed having been condemned as unfit, an entirely new cowshed has been erected.

A number of specifications have been issued for farms in the northern part of the City, but owing to the high cost of everything in the building trade no serious pressure has been brought to bear to get this work carried out, but something will have to be done at no very distant date.

One case of tuberculosis of the udder has occurred in cattle kept within the City, the cow being immediately slaughtered when found. One cow suffering from advanced sepsis, due to retention of a portion of the foetal membranes, was removed by my orders to the knackers. Seven other cows were removed from herds on account of my diagnosis of pulmonary tuberculosis, and in 11 other cases cow-keepers were required temporarily to cease selling milk from cows suffering from either cracked or damaged teats, where suppuration was present.

DAIRIES AND MILKSHOPS.

The work of the year, in so far as the actual dairies and milkshops is concerned, has been largely directed towards a complete survey of the whole, and a great deal has been done in respect of putting right many minor defects which existed. These relate principally to the structural conditions of the premises, which are mostly shops dealing in dry goods. Considerable attention, too, has been devoted to the proper keeping of milk, and to the keeping of milk in covered vessels where offered for sale.

The whole policy has been to mark time until the promised legislation for the amending of the Milk and Dairies Act, 1915, was forthcoming.

With the exception that somewhat persistent efforts, with the facilities at hand, have been made to secure an increasingly high standard of cleanliness, it can only be stated that the existing position is unsatisfactory.

It would profit little to reiterate what I wrote last year with regard to the smaller milkshops of the City. The shops are frequently too small, and overloaded with a variety of small articles for sale, much too numerous to specify, but, as a rule, admirably arranged for the accumulation of dust, which the ever-open door merely assists to move from place to place.

The question is, however, a serious one, as it is probably no exaggeration to say that a gross quantity, amounting to at least a fourth of the whole, is distributed to the consumer from these small general shops, and no matter how clean milk may be at the source it cannot reach the consumer in a very desirable condition when passing through so many hands, most of whom pour it from vessel to vessel in such places as to allow free access of dust.

The bottling of all milk would only be a partial remedy, as a very large number of the poor can only buy milk in very small quantities, and there can be no doubt that no serious progress can be made until the legal powers are amended to provide for either annual licensing or discretionary registration, dealing not only with the person selling milk but also the premises from which it is sold. If such powers are granted, there can then be no justification for the continuance, for any length of time, of conditions which are objectionable in every way.

I come, now, to a rather more encouraging portion of the work dealt with, namely, the dairyman or milk dealer proper. By this, I mean persons conducting a business dealing simply in dairy produce, who buy milk from the producers and retail it in the City.

The number who come under this class is but a small percentage of the whole concerned in the distribution of milk, but they evidently realise that an alteration is due, and are busy trying to put things right. They have, on the whole, achieved much during the past 15 months under review, and I can hardly think of one such milk dealer who has not done something to improve matters, either by alteration to their premises or by the installation of modern dairy plant. It is probably true that some of this expenditure has been injudicious, but it nevertheless indicates the right spirit.

The Manchester, Salford, and District Milk Dealers' Association have, at all times, expressed their desire to co-operate with me to secure improvement. Their Committee have received me with every courtesy and consideration, and their Secretary, Mr. Shenton, has been indefatigable in his efforts to assist me; and I feel bound to place on record not only my appreciation of his assistance, but to say that I am extremely hopeful that nothing but good can come of a close co-operation between the trade and the supervising authority.

During 1921 considerable progress has been made. Two entirely new dairies, equipped with up-to-date machinery, have been erected, and in 18 existing dairies considerable reconstruction has been carried out.

The cleaning and pasteurisation of milk is becoming more general. For the latter the "flash" method is more generally employed, but in two large dairies a complete plant for pasteurization by the "delayed" or "holder" process has been installed, and the milk treated by this process is finding a ready demand.

In one case the dairyman is retailing a proportion of the milk so treated in bottles, and the demand for this pasteurized milk in bottles is growing. Experience of this method of treating milk shows that where properly carried out the milk is highly palatable, gives a very good cream line, and keeps well. Further, the bacteriological examination of such milk has given good results.

A point of interest in connection with delayed pasteurization is that only milk which is reasonably fresh can be satisfactorily treated by this method—stale milk very often “breaking” in treatment.

For some years past Dr. Niven has urged dairymen to exercise more care in the selection of their sources of supply, and to reject the milk of notoriously unsatisfactory farmers. This is a principle difficult to get accepted everywhere, as frequently milk from such places can be bought cheaper, and even a conscientious dairyman hesitates to reject it, to be bought up by some less scrupulous competitor, and the public interest must then suffer. Progress is, however, being made, and the offer to supply dairymen with the particulars obtainable from the office records is being taken advantage of to an increasing extent, and also a quite considerable number of dairymen never purchase a farmer's supply without going to see the place at which the milk is produced. Unfortunately, however, quite a number of the dairymen have, themselves, come from the small farmers' class, and their standards are, therefore, not of the highest, when an assessment of conditions has to be made.

ICE CREAM.

The number of persons concerned as principals in the manufacture and sale of ice cream is stated to be 489. This, however, is probably below the proper number, as owing to conditions under which the trade is carried on it is extremely difficult to trace all of them. During the year Inspector Greenup has been single-handed, and, in addition to his other duties, has paid 607 visits of inspection to premises concerned in the manufacture of ice cream.

During the period of severe trade depression there has been a large influx of inexperienced persons into this trade, mostly in poor circumstances, and who have no proper conveniences whatever. Reports from other ice cream dealers, and also anonymous postal communications, are the chief source of notification of the existence of such people, many of whom state, on being visited, that they only ventured into the business to make a little money until they could get into employment again. The majority of these people quite readily give up the business when informed of the unsuitability of their premises, and the impossibility of complying with the regulations; but, unfortunately, only too often they sell their equipment to some other equally unfortunately placed individual, who again has to be traced.

It would be idle to suggest that the supervision of this trade has been adequate, and it is hoped to increase work done in this respect as soon as it is possible to secure the necessary staff for the purpose. To secure a minimum of the conditions drawn up by Dr. Niven a great amount of work remains to be done.

TABLE I.
MILK.

Number of milkshops on the register, December 31st, 1921 ..	2,238
„ „ visits by Inspectors (includes District Inspectors) ..	4,646
„ „ applications for registration	247
„ found unregistered	18
„ without indicator over door	91
„ of vessels uncovered	75
„ „ dirty premises	132
„ „ premises in disrepair	33
„ „ „ unfit for registration	5

CASES REPORTED TO COMMITTEE.

Dirty milkshop.. .. .	1	No action ; premises cleansed.
Dirty milk vessels	1	Cautioned by Committee.

LETTERS SENT BY COMMITTEE.

Nil

ICE CREAM.

Number on register	489
„ of visits by Inspectors	607
Dirty premises	61
Boiled mixture uncovered	24
Premises in disrepair	26
Defective ashbins	6
Premises unfit	16
Dirty clothing	4

COUNTRY MILK.

The work to be dealt with under this heading is confined to the general measures in operation for dealing with milk coming into Manchester from beyond her own boundaries. The basis of the work and the procedure adopted will, therefore, be much in accord with that of previous years.

During the 15 months 512 mixed samples were taken in the City for bacteriological examination, and of these the Food and Drug Inspectors collected 310 at the railway stations and another 15 from carts entering the City by road.

The number of samples of milk taken at day nurseries and hospitals is 133, and from City dairies and farms is 54.

The total number of mixed samples found to cause tuberculosis is 37.

The samples taken represent the control of the milk of 305 farmers, of whom 203 are country farmers. Of these farmers 191 reside in Cheshire, and 31 of them, or 16·23 per cent., sent tuberculous milk ; 48 are in Derbyshire, and 2 of them, or 4·17 per cent., sent tuberculous milk ; 38 are in Lancashire, and 4 of them, or 10·52 per cent., sent tuberculous milk ; 23 reside in Staffordshire, 2 in Yorkshire, and 1 in Westmoreland, and none sent any tuberculous milk.

The table completed to date from 1901 is inserted.

TABLE II.

YEAR	Number of Farmers' Milk tested during the year	Total number found to cause Tuberculosis in the experimental animal	Percentage of Farmers sending Tuberculous Milk	Percentage of Farmers from EACH COUNTY whose Milk was found to cause Tuberculosis						
				Cheshire	Derbyshire	Staffordshire	Shropshire	Lancashire	Yorkshire	Manchester
1901	272	27	9.90	10.46	9.23	8.00	10.00	...	...	...
1902	345	36	10.40	12.72	8.65	4.01	...	8.31	...	...
1903	329	45	13.60	14.76	9.58	15.15	40.00	...	...	...
1904	318	29	9.10	11.17	6.02	...	...	7.14	25.00	...
1905	565	47	8.30	10.26	6.00	6.38	...	2.98	12.50	...
1906	542	42	7.70	8.60	6.50	9.30	12.50	4.00	...	...
1907	562	38	6.76	7.71	4.48	6.94	12.50	3.70	...	...
1908	289	27	9.34	11.56	6.25	7.70	...	2.94	12.50	...
1909	535	31	5.79	4.80	7.47	8.57	11.11	3.33	...	...
1910	468	30	6.41	6.20	8.69	5.55	...	...	...	...
1911	494	51	10.32	11.11	2.5	12.12	10.00	12.20	50.00	...
1912	484	54	11.15	12.94	4.00	10.20	33.33	6.00	10.00	...
1913	486	60	12.51	13.99	11.58	9.26	33.33	5.88	20.00	...
1914	352	34	9.66	12.39	8.19	...	...	2.77	...	...
1915	69	9	13.04	16.21	...	...	...	13.63	...	...
1916	321	38	11.83	11.59	8.80	13.04	...	6.97	...	...
1917	365	37	10.13	13.54	9.3	4.3	...	11.7	...	11.7
1918	288	18	6.25	8.17	5.12	4.16	...	3.57	...	2.7
1919	240	20	8.30	8.84	8.0	4.55	...	8.1	...	11.7
1920	194	29	14.94	18.75	10.71	...	...	5.88	...	...
1921	305	37	12.13	16.23	4.17	...	...	10.52	...	...
Total..	7823	739	9.4	—	—	—	—	—	—	—

It will be seen that the average percentage of tuberculous milk supplied by the 305 farmers is 12·13 per cent., a figure which is somewhat lower than that recorded for 1920 ; but again, it cannot be regarded as a legitimate average of the whole, it being the result of the policy commenced in 1920 and carried through in the same manner, by selecting special farms and areas for supervision, which, in the light of my knowledge of the districts and conditions pertaining, appeared likely to provide the greatest degree of risk.

That the suspicions of the districts and individuals selected were well founded is evidenced by the figures, and I am now hopeful that the major portion of the most risky farms having been covered, some improvement will commence to show itself.

The question may be asked as to how such risk is assessed, and to give an adequate answer is very difficult. First, I rely, to some extent, on the character of the individual farmer as he may be known to me, but chiefly it is a question of financial standing, and, as a rule, a standard of stability in a given district is usually pretty common to all. Custom, too, is a not unimportant factor, and it will be found, as a general rule, that the methods of farmers in a given area are generally pretty much the same. If, for instance, it has ceased to be the custom of a prominent member of the community to rear young stock, then the majority follow suit, and if, again, this prominent person advocates the purchase of young stock from certain areas, so also is the example accepted. For example, in a certain large area from which a copious supply of tuberculous milk has come, it has become customary to buy fresh young dairy cattle from the adjacent hill country, where farms are for the most part small and insanitary, the land is not prodigal in productivity, and many of the cattle are weedy and stunted in growth. They have spent a very considerable portion of their early youth tied up in small standings in dark and dirty buildings, so they live for many months devoid of light and exercise, under ideal conditions for the production of tuberculosis. They are attractive to many purchasers because they are comparatively cheap, and have acquired a reputation for being hardy, because of the conditions of their early life in a hilly country. It is true that many grow and do well when brought down to the more hospitable lowlands, but a great many break down under the stress of calf bearing and milk production, and little wonder, when handicapped as they are practically from birth. Such cattle are quite easily picked out, and I have repeatedly done so, and received subsequent confirmation that they had come from such district as I have described.

When I say earlier that I am hopeful that improvement will soon commence to show, I do not mean to suggest that I believe the actual number of tuberculous cattle will become any less, but rather, that owing to our activities, a more careful supervision may be exercised over the herds, and suspicious animals got rid of at an early period.

It will thus be seen that the problem of reduction of the incidence of tuberculosis in cattle is no nearer solution than it was 20 years ago. A very large

proportion of the housing is, we know, bad—buildings lack light, are overcrowded and dirty, and the present state of finance prohibits any widespread improvement of structural conditions. But even these places can be rendered comparatively safe by adequate attention to cleanliness and periodical thorough disinfection.

The admitted loss from tuberculosis to agriculturists at the present time is enormous, and I regret to say that I see no sign of improvement. Indeed, as the principles now so extensively advocated, of careful breeding of dairy cattle for intensive milking capacity, are more generally adopted, so in due course I am of opinion that under the existing infective condition the loss from tuberculosis will increase, for it is well known that the animal producing the greatest amount of work is the first to succumb to tuberculosis. The question, however, is a national one, and cannot, with any prospect of success, be tackled piecemeal; and probably, so long as such conditions as foot and mouth disease, and the possibility of importation of disease from Canada, are allowed to occupy the whole attention of those responsible, nothing of any value will be done.

I do not speak without experience when I say I am pessimistic about the future of the work in the great campaign against tuberculosis, so far as it concerns the public health, unless it is possible to greatly increase the amount of work done actually at the farms, and no control will be adequate until it is possible to say that every source of production is under supervision. For the present it is only possible to touch the fringe of the problem. The trend of events is, however, in the direction of saddling all the responsibility upon the dairyman or distributor of milk, and, to a very great extent, letting the producer go free. There is, apparently, a belief among many that the farmers are a class of sacrosanct individuals, who must be left to carry on their trade of milk production without any consideration for the protection of the consumer. But despite the wailings of the people who profess to be specially privileged to understand dairy farming, and claim the right to represent the producers of milk, I can see no reason why they should be exempt from the maintenance of an ordinary standard of decency. There is, I am glad to say, a not inconsiderable percentage of dairy farmers who do their best to produce a good, clean, wholesome food, free from risk of disease, and who are only too ready to do anything they are advised to do, but they receive scant encouragement when they find that they only receive the same price for their milk as is paid for milk produced under the most loathsome conditions.

Cheap milk may be a boon to the community, but there is undoubtedly a margin below which production ceases to be profitable, and much milk may then be cheap, but it is also nasty.

The attitude of the consuming public is, of course, the governing factor, and their apathy would suggest that the dung of cattle possesses some particularly beneficent quality rendering that dark sediment too frequently seen in the milk jug an adjuvant to be desired. I venture to think that they would not

be so complacent could they but see much of the filthy slime, consisting mostly of cow dung, straw, hairs, etc., to be found in any of the machines now used for cleaning milk.

In the light of a lengthy and extensive experience, I say, without hesitation, that it is high time those producers who decline to produce clean milk were made to realise that they will not be permitted to sell their dirt-laden product, and legislation to this end is much overdue, but, from what one can learn, appears likely to remain so.

As will be seen by reference to the tables attached, the mixed milk from 37 farmers was shown to be tuberculous, during the 15 months under review, and of these the actual source of infection was found present at 26 farms, and at 2 of these farms 2 cows were found suffering from tuberculosis of the udder. There thus remain 11 farms where no source of infection was actually found by me, but in every one of these cases it was ascertained that one or more animals had been disposed of during the interval elapsing between the taking of the original mixed sample and my visit to the farm, and in these cases the actual statements were verified.

On further reference to the table it will be found that 159 country farms were inspected, and 65 re-inspected during the year, thus showing that a number of farms have been inspected in addition to those supplying tuberculous milk; and, further, where a farmer has once been found selling tuberculous milk, that farm is not lost sight of. In this way the number to be kept under supervision is a gradually increasing one, and certainly, where possible, such a policy cannot but lead to good results. They are shown how disinfection of buildings can be carried out, and there are few of these farms where marked improvement in cleanliness and methods are not evident, but immediately they are left alone for any length of time a reversion to the earlier condition of things is evident. Unfortunately, among these farmers are a few who show no capacity whatever for improvement, and as time goes on it is to be hoped that they will be excluded from our sources of supply.

All the 28 cows referred to above were slaughtered in my presence, or I saw the carcasses soon after, and in only two cases the entire carcass was found fit for food, in 6 cases part of each carcass only was condemned, and in the remaining 20 the entire carcass was pronounced unfit for food.

The cases of tuberculosis of the udder found were, for the most part, comparatively recent, so far as the conditions found in the udder allow of assessment, but for the most part tuberculosis in the udder, as found now, is not easy to confidently diagnose, and in 4 cases during the year I have had to visit farms twice before the offending animal has been found. In one case I found a cow giving tuberculous milk from one hind quarter, but at no time while she was alive was I able to distinguish any lesion in the udder, and at post-mortem the lesion demonstrable was extremely limited in extent. This cow was, however, found at the first visit, as I was able to diagnose some pulmonary consolidation associated with enlargement of the sub-maxillary lymphatic glands.

On one of the farms where 2 cows suffering from tuberculosis of the udder were found, the existing conditions may be best described by quoting from the report made by me at the time :—

“ I examined 20 cows in one cowshed. The conditions generally were bad, despite the satisfactorily constructed cowshed. I found 2 cows suffering from tuberculosis of the udder. Both animals are of high milking capacity, with large tense udders, and diagnosis of the existing pathological conditions would not be easy to the inexperienced, but the percentage of old worn cows is also very high, and special steps will have to be taken with this herd.

“ The farmer, who is a very depressed and despondent sort of individual, who has evidently had some serious loss in his young stock from Quarter-ill, must be blamed, to a large extent, for the conditions existing. He, however, states that he is quite willing to leave himself in my hands, and will clear out any animals I instruct him to remove. I have arranged to have the two cows suffering from tuberculosis of the udder slaughtered as soon as possible, and have advised him, after careful examination, to get rid of at least 9 other cows as soon as he can do so. Complete disinfection of the cowsheds and boxes is being carried out without delay, and I think, in course of time, we may get some return to decent conditions. Possibly a more drastic course of action might have been advised, but I am sorry to say that the farmer has been advised by a local veterinary surgeon that his cows' udders were free from disease of the udder but a short time prior to my inspection. The farmer is thus not quite as guilty of neglect as he might otherwise have been held to be.”

Extract from subsequent report :—

“ Both cows found suffering from tuberculosis of the udder have been destroyed. At post-mortem the carcasses were both found to be fairly extensively affected, and were condemned as quite unfit for food, this decision being vigorously resented by the butcher. A thorough disinfection and cleansing of all his buildings has been carried out, and 5 of the 9 unsatisfactory animals have been disposed of and replaced by young and apparently healthy stock. Mr. M—— has, however, discontinued sending to Manchester, as he feels sure he will not be able to maintain the standard required by me.”

The last paragraph is interesting, as being an index of this farmer's mind—he no doubt feels that it will be too much trouble if he were required to keep things decent. He will, however, inevitable revert to the former state of affairs, as such shiftless and easily-discouraged persons usually do.

J. W. BRITTLEBANK.

TABLE III.

SOURCE OF SAMPLES		NUMBER OF SAMPLES				NUMBER OF FARMS		Number of Cows Examined	COWS WITH TUBERCULOUS UDDERS		
		Primary and Subsequent	Control	Total	Positive Results	Inspected	Reinspected		Found	Slaughtered under Supervision of a Vet. Surgeon	Removed from Farm and stated to have been Slaughtered
By Food and Drug Inspectors	Railway Stations..	310	10	320	30	..	..	..	..	..	..
	Carts and City Dairies ..	15	1	16	3	..	..	..	..	..	..
By Veterinary Surgeon and Inspector Greenup	Nurseries and Hospitals. Mixed	133	.	133	1	..	..	..	..	..	..
	Carts, City Farms, and City Dairies..	54	..	54	3	..	..	..	..	..	..
	Country Farms. Individual	47	..	47	28	159	65	6,998	28	28	..
	City Farms. Individual ..	..	..	..	..	78	321	8,007	..	..	..
	Totals	559	11	570	65	237	386	15,005	28	28	..

PNEUMONIA.

[PRIMARY AND INFLUENZAL—INTRODUCTORY.]

It cannot be said that we have advanced the public health side of pneumonia materially. The work, however, is supervised in a general way by Dr. Young. I can only repeat what I have previously said, that what is needed for this important disease is a skilled investigator, working under the Medical Officer of Health or the Tuberculosis Officer. The etiological investigation is not going to be an easy one.

Miss Seed has prepared an admirable summary of the facts ascertained, so far as they admit of summarising, accompanied by elaborate tables, which are too long to print, but which give, I think, all the information which could possibly be extracted from the sheets, divided into four groups, relating to lobar pneumonia, lobular pneumonia, influenzal pneumonia, and unspecified pneumonia respectively.

What is very striking is the large number of cases of lobar pneumonia notified at the early ages 0 to 4 and 5 to 9. This holds for previous years as well. Under lobular pneumonia, more than two-thirds of the cases are under 5 years of age.

The cases of influenzal pneumonia, notified as such, suddenly increase at ages 15 to 19, and are grouped about the higher ages up to 64, there being comparatively few before the age of 15. In fact, they represent influenza as it was in 1891 rather than as it was in 1918 and 1919.

This is also the case with 172 cases of influenza discovered and investigated.

The grouping in time is very curious. Cases of lobar pneumonia suddenly become more numerous in June and remain higher to the end of the year, excepting in August, when the numbers fall. They rise steadily through September up to December.

Cases of lobular pneumonia rise somewhat in May, markedly in June and July, falling in August, then they rise steadily to the end of the year, except that the rise in December is a steep one.

In the case of influenzal pneumonia there is a rise in May, but a fall in June, July, and August, especially in the last two months. The cases then increase, but not sharply, though they are doubled in November, and nearly doubled again in December.

Unclassified pneumonia behaves very much like lobar pneumonia, except that the sharpest rise occurs in May, June, and July, with a drop in August.

It will be noted that the seasonal behaviour of lobar pneumonia is exactly reversed. One is tempted to interpret the facts as meaning that an influenzal wave occurred in May, June, and July, followed by a lull, with a subsequent rise to the end of the year.

Certainly, no such earlier rise was observed in cases of influenza, though about September or October Dr. Sutherland drew my attention to the presence of cases of influenza.

It seems evident, in any case, that from the incidence of pneumonia one may gather valuable information with regard to epidemic prevalence of some sort.

The meteorological factors do not seem to promise such a reversal of the usual course of lobar pneumonia, but the contrary. The one striking fact about August is the heavy rainfall, which would have the fact of checking dissemination of infection by dust.

PNEUMONIA.

STATEMENT BY MISS SEED.

During 1921 the following deaths from Pneumonia occurred, as revealed by the returns from the local registrars of births and deaths :—

Lobar Pneumonia	326	} 924
Lobular Pneumonia	.. ..	490
Unclassified Pneumonia	.. ..	108

Several deaths from *Influenzal Pneumonia* occurred amongst the 207 deaths which were classified as deaths from Influenza.

The total number of notifications received was :—

Primary Pneumonia	1578	} 1796
Influenzal Pneumonia	218	

This is again an increase in the Primary Pneumonia notifications, but a decrease in those for Influenzal Pneumonia, and a considerable increase in the total as compared with that for the previous year, when the notifications numbered 1,154.

As in the preceding years many of these notifications were duplicates, cases being again notified if admitted to hospital, while several cases occurred in hospitals and institutions and common lodging-houses, so that eventually only 790 notified cases were available for statistical purposes.

In addition to these, however, 206 deaths from Pneumonia (44 lobar, 119 lobular, 12 influenzal, and 31 unclassified), all being unnotified cases, were investigated, bringing the total number of cases up to 1,896. The above is more than twice the number for the preceding year.

The Health Visitors paid 4,685 visits in connection with cases suffering from all forms of Pneumonia, as compared with 2,465 visits in the previous year.

LOBAR PNEUMONIA.

The notifications under this head give 351 males and 222 females affected. The age grouping of these is given below :—

Years of age	Males	Females	Total	Years of age	Males	Females	Total
0 to 1 ...	4	9	13	35 to 44 ...	53	30	83
1 to 4 ...	35	28	63	45 to 54 ...	41	22	63
5 to 9 ...	47	36	83	55 to 64 ...	30	21	51
10 to 14 ...	29	19	48	65 to 74 ...	10	7	17
15 to 19 ...	30	11	41	75 + ...	2	—	2
20 to 24 ...	19	14	33				
25 to 34 ...	51	25	76				
				All ages ...	351	222	573

456 cases were attacked for the first time, and 117 had previously suffered from Pneumonia.

376 cases recovered and 197 died.

148 cases were removed to hospital, and of these 62 died and 86 recovered. 172 families had been attacked previously at some period by Pneumonia.

In 3 cases other members of the family were suffering from Pneumonia at the time of visit.

Throughout the year the cases occurred during the various months as given below :—

January	24 cases	July	61 cases
February	26 „	August	25 „
March	39 „	September	42 „
April	37 „	October	65 „
May	35 „	November	73 „
June	56 „	December	90 „

The following table gives the occupations in cases attacked.

Under school age	73	Iron Dressers .. .. .	..
School children	121	Moulders .. .. .	..
Domestic	87	In-door Labourers	2
Clerical	17	Out-door Labourers	2
Tradesmen and shop assistants	8	Others	13
Mill Workers	14	Nil	2
Carters	8		
Motor Drivers	3		
Dress-making and Tailoring .. .. .	..	
and Machinists	15		

In 50 cases histories of Tuberculosis in the family were given. 108 families, were subject to Bronchitis. In 11 cases the onset of Pneumonia was a complication of confinement.

Similar tables for Lobular, Influenzal, and unclassified Pneumonia follow :—

LOBULAR PNEUMONIA.

There is a considerable increase in the cases of Lobular Pneumonia notified during the year. Of males 341 cases, and of females 268 cases were affected. Total 609 cases.

Distribution.

Years of age	Males	Females	Total	Years of age	Males	Females	Total
to 1 ...	68	54	122	35 to 44 ...	14	9	23
to 4 ...	170	129	299	45 to 54 ...	10	6	16
to 9 ...	33	35	68	55 to 64 ...	5	7	12
to 14 ...	9	6	15	65 to 74 ...	11	6	17
to 19 ...	5	2	7	75 +	6	3	9
to 24 ...	3	3	6				
to 34 ...	7	8	15				
				All ages ...	341	268	609

First attacks, 516 cases. In 93 cases the patient had had Pneumonia on some previous occasion.

In 349 cases the patient recovered and 260 cases died.

During the year

45 cases occurred in January.

54 cases occurred in July.

25 „ „ „ February.

31 „ „ „ August.

21 „ „ „ March.

49 „ „ „ September.

11 „ „ „ April.

63 „ „ „ October.

39 „ „ „ May.

76 „ „ „ November.

63 „ „ „ June.

132 „ „ „ December.

Occupations.

Under school age	..	..	422
Of school age	..	..	79
Domestic Duties	..	..	33
Others	..	..	62
Nil	..	..	13

142 cases were removed to hospital, of these 70 died and 72 recovered.

184 families had had Pneumonia previously.

In 14 families other cases of Pneumonia were present in addition to the case notified at time of visit.

In 43 instances histories of Tuberculosis in the family were given. 181 families were subject to Bronchitis, and in 7 cases Pneumonia was a complication of confinement.

INFLUENZAL PNEUMONIA.

Males, 163 cases ; females, 97 cases ; total 260.

Age Distribution.

Years of age	Males	Females	Total	Years of age	Males	Females	Total
0 to 1 ...	2	1	3	35 to 44 ...	25	16	41
1 to 4 ...	5	5	10	45 to 54 ...	30	13	43
5 to 9 ...	7	5	12	55 to 64 ...	16	6	22
10 to 14 ...	5	3	8	65 to 74 ...	8	2	10
15 to 19 ...	13	7	20	75 +	2	5	7
20 to 24 ...	19	10	29				
25 to 34 ...	31	24	55				
				All ages ...	163	97	260

In 220 cases this was the first attack of Pneumonia ; 40 cases had suffered from Pneumonia previously ; 54 cases had had Influenza previously.

164 cases recovered and 96 died.

36 cases were removed to hospital, and of these 11 died ; 54 families had been previously attacked by Pneumonia, and 50 by Influenza.

13 families had other cases suffering from Pneumonia besides the patient notified, and in 21 cases there were other members of the family suffering from Influenza at the time of investigation. In 8 households deaths from Influenza had occurred at some recent period.

17 cases occurred in January.

6 cases occurred in July.

14 " " " February.

9 " " " August.

24 " " " March.

12 " " " September.

25 " " " April.

13 " " " October.

42 " " " May.

28 " " " November.

19 " " " June.

51 " " " December.

Occupations.

13 cases were under school age.

20 " " attending school.

50 " " occupied with domestic duties.

17 " " occupied with clerical duties.

13 " " Tradesmen, Shop Assistants, etc.

8 " " Carters.

11 " " In-door Labourers.

6 " " Machinists and Dress Makers, etc.

8 " " Out-door Labourers.

92 " " Other occupations.

22 " " Nil.

22 families had Tuberculosis histories, and 46 were subject to Bronchitis.

UNCLASSIFIED PNEUMONIA.

454 cases notified merely as " Pneumonia " were visited ; of these 284 were males and 170 females.

Age Groups.

Years of age	Males	Females	Total	Years of age	Males	Females	Total
to 1 ...	9	17	26	35 to 44 ...	42	21	63
to 4 ...	33	37	70	45 to 54 ...	28	10	38
to 9 ...	40	22	62	55 to 64 ...	25	12	37
to 14 ...	19	15	34	65 to 74 ...	16	10	26
to 19 ...	19	7	26	75 +	8	1	9
to 24 ...	9	9	18				
to 34 ...	36	9	45				
				All ages ...	284	170	454

In 360 cases this was the first attack of Pneumonia. 94 cases had had Pneumonia previously.

309 cases recovered and 145 died.

131 cases were removed to hospital, and of these 46 died and 85 recovered.

112 families had had Pneumonia previously ; only in 6 families was there another case at the time of visit.

47 cases had Tuberculosis histories in the family, 99 families were subject to Bronchitis, and in 6 cases Pneumonia was a complication of confinement.

These cases were thus distributed in months.

January	29 cases	July	44 cases
February	34 „	August	24 „
March	25 „	September	30 „
April	38 „	October	35 „
May	62 „	November.. .. .	37 „
June	47 „	December	49 „

Occupations.

96 cases were	under school age.
93 „ „	attending school.
59 „ „	occupied with domestic duties.
9 „ „	Clerical Work
22 „ „	In-door Labourers.
16 „ „	Out-door Labourers.
136 „ „	Others.
23 „ „	Nil.

The delay between the diagnosis of pneumonia and the receipt of the notification is still considerable in all forms of the disease.

In 146 cases 1 day elapsed before the receipt of notification.

„ 245 „	2 days „	„ „ „	„
„ 308 „	3 „ „	„ „ „	„
„ 714 „	4-7 days „	„ „ „	„
„ 227 „	8-14 days „	„ „ „	„
„ 50 „	15-21 „ „	„ „ „	„

In 209 cases the patient had died prior to the receipt of notification.

Assistance in the form of milk was allowed in 147 cases. "Home Helps" were required only in 2 cases, and then for a very short period.

INFLUENZA.

The Health Visitors visited 172 cases of influenza. Of these 78 were male patients and 94 females, the age grouping being as follows:—

Years of age	Males	Females	Total	Years of age	Males	Females	Total
0 to 4 ...	8	3	11	35 to 44 ...	13	2	15
5 to 9 ...	4	4	8	45 to 54 ...	11	7	18
10 to 14 ...	3	8	11	55 to 64 ...	11	12	23
15 to 19 ...	1	3	4	65 to 74 ...	9	11	20
20 to 24 ...	4	3	7	75 +	3	15	18
25 to 29 ...	3	7	10				
30 to 34 ...	8	19	27				
				All ages ...	78	94	172

The attacks were spread throughout the year in the following order:—

January	5 cases	July	3 cases
February	14 „	August	3 „
March	10 „	September	6 „
April	21 „	October	9 „
May	20 „	November... ..	17 „
June	11 „	December	53 „

As in previous years knowledge of the majority of these cases of influenza was obtained only after death had taken place; 52 cases were found by the health visitors in the course of their work.

11 cases occurred in Ancoats, 17 in St. George's, 1 in Harpurhey, 4 in Moston, 1 in Blackley, 7 in Cheetham, 1 in Crumpsall, 17 in Newton, 8 in Bradford, 2 in Swick, 6 in Openshaw, 8 in Gorton, 11 in West Gorton, 4 in Ardwick, 14 in Bolton-upon-Medlock, 6 in Levenshulme, 3 in Rusholme, 7 in Moss Side, 27 in Rusholme, 8 in Withington, and 7 in Central.

Here, as in pneumonia, assistance has been given where necessary.

Only 24 of the total cases had had Influenza previously, but 19 other households had been affected previously. 38 households had more than 1 case at the time of visit, making 246 cases in all in 172 households.

In all 235 visits were paid with regard to influenza, which is less than half the number paid in the previous year.

MATERNITY AND CHILD WELFARE.

INTRODUCTORY.

Health Visitors.

Miss Seed's report on the work of the Health Visitors is marked by the usual lucidity and thoroughness. The work done owes much to the energy with which she scrutinises the investigation sheets dealing with child welfare generally—pneumonia, measles, whooping cough, and summer diarrhoea. Fortunately, in 1921, measles was but little prevalent, so that much more time was bestowed on the general work. The systematic visiting of young children, advising with mothers on the principles guiding the upbringing of their infants, and reporting when further action is needed is, in my opinion, far the most important work on which Health Visitors are engaged. It admits of many interests and also of much improvement. I attach great importance, also, to the lectures given to Health Visitors by the Medical Officers under the Maternity and Child Welfare Scheme, and to their examination of the investigation sheets. The more satisfactory they can render the investigation sheets, and the work recorded on them, the more opportunity will offer itself for research and advance.

As Miss Seed shows, the work is hindered by the inadequacy of Hospital accommodation, and it would be worth while once more to endeavour to induce the Ministry of Health to sanction an arrangement by which a number of beds at the Manchester Children's Hospital, Pendlebury, would be secured for the scheme.

As I stated to the Committee when the scheme was enlarged to take in children up to 5 years of age, the proposals for Health Visitors were insufficient, the more so if we take into account the diseases which they are called upon to visit. But I do not suggest that those diseases should be withdrawn from their care, as the Health Visitors are better qualified to pay the necessary visits than any other body.

Provided enough hospital accommodation of the requisite quality can be obtained, the next all important need is that the Health Visitors should be able to seize the critical time when young children are going down-hill and may still be stopped, and that the necessary measures should then be taken to save them.

That, of course, is one of the principal functions of Miss Seed and her staff, but it cannot be too much emphasised.

Having regard to the immense importance of sunlight and fresh air to infants and young children, I have been much struck by the smallness of the numbers visiting the beautiful parks in Rusholme. Perhaps they are rather far from the crowded areas.

STATEMENT OF WORK DONE BY THE HEALTH VISITORS.

By MISS SEED.

During the year 1921 the Maternity and Child Welfare Sub-Committee met ten times.

The staff at the end of the year consisted of the Superintendent, the Assistant Superintendent, six Female Clerks, a Cleansing Nurse, and 49 Health Visitors, 3 of whom were certificated Nurses, and received salaries ranging from 40s. to 2s. per week, plus a war bonus. Of the remaining six, one visitor was taken on to the staff when the district she had been previously working was included in the City area; the five others were taken over from the Ladies' Public Health Society by the Corporation in 1908. Their salaries varied from 9s. to 38s., together with the war bonus.

Fifteen of the Health Visitors resigned and sixteen new appointments were made. There were no resignations and no new appointments on the clerical staff.

In compliance with the wishes of the Ministry of Health that a Health Visitor should be put on to six hitherto unworked districts within the City boundary, four of the six—Clayton, Moston, Moss Side, and Rusholme—were opened towards the end of 1920. Of the remaining two, Kirkmanshulme was opened in November, 1921, but owing to changes in staff, the difficulty in obtaining suitable Health Visitors, and the pressure of work in other directions, it was not possible to spare a Health Visitor for the sixth district (certain portions of the Withington area) until the following year. Though there has been a decrease in the number of births throughout the year, there is still too much work in many of the districts for the Health Visitors to tackle effectively. The children in their third, fourth, and fifth years are much undervisited in order that those in the first two years of life may have all the attention we can bestow on them.

The main features of the Health Visitors' work include the visitation of infants at their homes from the time the attention of the midwife or doctor ceases until the completion of the child's fifth year; the investigation of cases of measles, whooping cough, pneumonia, and influenza, and the investigation and following up of cases of scabies and vermin.

Table I. shows the work done throughout the year in each district worked by the Health Visitors.

Table II. compares the work of 1921 with that of the four preceding years.

Notification of Births Act.

Following a great increase in the number of births notified during 1920, there was a decrease of a little over 1,000 births notified during 1921 as compared with 1920.

The total number of notifications received under the Notification of Births Act was 17,167, of which 4,706 were made by doctors, 11,720 by midwives, and 741 by parents. Out of the total of 17,167, those occurring in the districts covered by the Health Visitors numbered 13,709. The registered births within the City numbered 17,601, and 15,298 were referred to the Health Visitors.

In addition to these, the Health Visitors "discovered" on their respective districts 144 infants who were born during the current year, 239 infants who were born during 1920, 178 infants born during 1919, 100 infants born during 1918, and 67 infants born during 1917, thus adding a total of 728 new cases to be visited to those already distributed to them through the Notification of Births Act. These cases were either removals into Manchester from other towns or removals from (at present) unvisited areas of the City. The notification of the removal of an infant from one local authority to another is now becoming a very general practice.

Deaths.

1,490 deaths of infants under one year of age occurred in the districts covered by the Health Visitors during 1921. Of these, 163 lived less than a day, 164 died over a day old and within a week, 253 died over a week old and within a month, 237 died over a month and under three months old, 294 over three months and under six months old, 201 over six months and under nine months old, and the remaining 178 between the ages of nine months and one year.

In 301 cases death was due to Bronchitis and Pneumonia, in 283 cases to Prematurity, in 230 cases to Enteritis, in 138 cases to Debility and Marasmus, in 107 cases to Convulsions, in 23 cases to Accidental Deaths, including those due to want of attention at birth; 26 cases died from Tuberculosis, 24 from Syphilis, 13 from Influenza, 77 from Whooping Cough, and the remaining 268 deaths were due to various other causes. There were no deaths from Measles.

Table 3 shows the distribution of deaths according to districts of children under one year of age, and table 4 shows the distribution for children of 1-5 years of age.

There were 639 deaths of children of one to five years of age. Of these—

427 occurred in the years 1-2

90	„	„	2-3
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65	„	„	3-4
----	---	---	-----

57	„	„	4-5
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In 265 cases death was due to Bronchitis and Pneumonia, 67 children died from Enteritis, 9 from Debility and Marasmus, 19 from Convulsions, 28 from Accidental Causes, 55 from Tuberculosis, 3 from Influenza, 3 from Measles, 3 from Whooping Cough, and 127 from various other causes.

Summer Diarrhœa.

From July 15th to September 30th, 1921, 730 cases of Diarrhœa were visited. Of these, 152 occurred during the last two weeks in July, 357 during the month of August, and 221 during the month of September. These figures are greatly in excess of those given for 1919 and 1920, when 174 and 216 cases were visited respectively.

In Ancoats 76 cases were visited, 30 in London Road, 119 in St. George's (including Monsall district), 63 in Ardwick, 128 in Hulme, 35 in Chorlton-upon-Medlock, 9 in Beswick, 82 in Bradford, 19 in West Gorton, 37 in Gorton, 15 in Openshaw, 12 in Miles Platting, 16 in Newton Heath, 3 in Blackley, 21 in Ardurhey, 42 in District I. and II., 15 in Clayton, 11 in Moston, and 1 in Moss Side.

387 of the total cases were children under 12 months, and of these 96 were on breast feeding, 65 mixed feeding, and 226 entirely artificial feeding at the onset of the illness.

117 cases died, though not all of the deaths were ascribed to Diarrhœa. 42 deaths were those of children under one year of age, and of these 42 had not attained their fourth month. 68 cases were admitted to the various Hospitals in the City.

Table 5 shows a comparison of the work done in 1921 under this heading with that done in the four preceding years.

Child Welfare Centres.

The close co-operation between the Health Visitors and the Infant Welfare Centres continues.

The Medical Officers of the Centres gave their lecture each week to the Health Visitors, and, as in previous years, all case sheets of infants who were not making satisfactory progress were submitted to them, as also the Health Visitors' reports on infants attending the Centres. A list of the new attendances at each of the Infant Welfare Centres was sent to the Medical Officer of Health each week for the information of the Health Visitors.

The Manchester Babies' Hospital.

The number of Corporation beds in the Manchester Babies' Hospital still remained at 18, and again the inadequacy of the accommodation resulted not infrequently in a long waiting list, and, as will be seen from the following paragraphs, was for other reasons greatly to be deplored.

During 1921, 112 applications were received for admission to the hospital. Of these, 25 were cancelled for the following various reasons : 12 were admitted to other hospitals, 3 died before beds were available, 3 so much improved whilst on the waiting list that hospital treatment was no longer necessary, and in 4 instances the parents at the last minute were unwilling to allow their children to go into hospital. One case had to be refused admission as the child was suffering from Whooping Cough, and two other urgent cases were admitted to "private beds."

Of the remaining 87 cases who *were* admitted to the hospital,

5 cases were sent in from the centre at 72, Rosamond Street West, C.-on-M					
7	"	"	"	"	226, Hyde Road, Gorton.
7	"	"	"	"	45, Higher Ardwick.
16	"	"	"	"	93, Hamilton Street, Collyhurst.
11	"	"	"	"	135, Pollard Street, Ancoats.
15	"	"	"	"	1, Manipur Street, Openshaw.
7	"	"	"	"	153, Cheetham Hill Rd., Cheetham
7	"	"	"	"	Oldham Road, Newton.
10	"	"	"	"	40, Lower Moss Lane, Hulme.
1	"	"	"	"	St. Aloysius, Ardwick.
1	"	"	"	"	Conran Street, Harpurhey.
<hr/> 87 <hr/>					

The various conditions from which the children were notified to be suffering were :—

				Cases		Cases
Malnutrition .. .. .	..	..	..	11	Marasmus .. .. .	..
Atrophy .. .. .	..	..	..	4	Bronchitis .. .. .	..
Dyspepsia .. .. .	..	..	..	55	Gastro-Enteritis.. .. .	..
Rickets .. .. .	..	..	..	2	Diarrhoea and Vomiting .. ..	..
Septic Gumas .. .. .	..	..	..	1	Congenital Syphilis .. .. .	..
Total				87		

The ages of the infants on admission were :—

				Cases		Cases
Under 1 month .. .. .	..	..	..	3	Aged 7 months .. .. .	..
Aged 1 .. .. .	..	..	..	5	" 8 .. .. .	..
" 2 months .. .. .	..	..	..	14	" 9 .. .. .	..
" 3 .. .. .	..	..	..	14	" 10 .. .. .	..
" 4 .. .. .	..	..	..	23	" 11	(and over) ..
" 5 .. .. .	..	..	..	4		
" 6 .. .. .	..	..	..	5		

The length of stay in hospital varied, as follows :—

9 remained in hospital for one week.			
18	„	„	rather less than one month.
15	„	„	for one month.
24	„	„	„ two months.
8	„	„	„ three „
9	„	„	„ four „
1	„	„	„ five „
3	„	„	„ six „
<hr/>			
87			
<hr/>			

Thirty of the cases died in hospital, and five have died since discharge. Only about 25 per cent. of the mothers attended the Infant Welfare Centres as regularly as they should after receiving their infants home again from hospital. The Health Visitors visited the children promptly as soon as the notification of discharge was received, and a report of the conditions found was sent to the hospital. In these cases attendance at a Centre was always strongly urged. From the latest reports on the hospital cases, 41 were said to be in a satisfactory condition and 9 were unsatisfactory. Two cases have removed out of Manchester.

Crèche Ward, Monsall.

Cases sent into the Crèche Ward, Monsall, during 1920 were kept in for a very long period, consequently, the number of cases admitted during 1921 was very low. During the Diarrhoea season, in fact from August until November, this ward was kept exclusively for infants suffering from Diarrhoea, and 11 such cases were admitted.

In respect of the ordinary malnutrition cases, however, only 7 applications were received, and of these the mother in one case eventually refused to allow her child to go to hospital ; and in another, the child improved whilst waiting for a bed, and hospital treatment was no longer necessary, so that only five cases were admitted during the year.

The age limit for the Crèche Ward is from one to two years. Our experience is that we find more extreme cases of malnutrition and rickets during the years two to three, and that it would be an advantage to have the age limit so far extended, and to reduce the period of residence in the ward.

Of the five cases admitted—

4 cases were sent in from the Infant Welfare Centre, 93, Hamilton Street,					
					Collyhurst.
1 case was	„	„	„	„	688, Oldham Road,
					Newton.

One case was suffering from Rickets and Atrophy, 3 were cases of Debility, and one was suffering from Bronchitis and Atrophy.

Four of the cases were discharged, the length of time in hospital being as follows:—

3 cases remained in hospital 2 months.

1 case ,, ,, 3 ,,

1 ,, ,, 4 ,,

Four of the cases when last visited were in a fairly satisfactory condition one is needing further hospital treatment most urgently.

Measles, German Measles, and Whooping Cough.

1,135 cases of Measles, 453 of German Measles, and 4,415 cases of Whooping Cough were visited, and kept under supervision until satisfactory. The distribution of these diseases throughout the City, and the mortality therefrom together with a report showing how the various age groups have been affected by Measles, are to be found elsewhere. (See pages 50 *et seq.*)

As compared with the preceding year these figures show a decrease of 9,000 notified Measles cases (there was, of course, no epidemic as in 1920), but there is an increase of approximately 300 cases of German Measles, and the case of Whooping Cough notified have increased by 2,000.

Pneumonia.

A full report of the work done with regard to Pneumonia appears elsewhere (see page 152). The total number of notifications of cases of Pneumonia received (1,796) shows an increase over that of the preceding year (1,154). The number of *Primary Pneumonia* notifications has increased from 897 to 1,578, and the *Influenzal Pneumonia* notifications have decreased from 257 to 218.

The grant of £200 allowed since 1917 in connection with Measles and Whooping Cough has been continued throughout 1921, and, as before, proved a very great boon in providing milk for infected children up to three years of age in household where the family income fell below the standard scale.

Throughout the year 377 applications for milk were granted, and 6,620 pint of milk were given.

At the end of 1920 about 20 tons of coal, part of the gift of coal of December 1916, still remained. During 1921, 43 applications for coal were sanctioned and tickets issued to the extent of 43 cwt. of coal.

Amount of coal received December, 1916	Tons.	250
„ „ distributed during 1917	123	232
„ „ „ „ 1918	..	..	..	..	82½
„ „ „ „ 1919	..	..	..	..	23½
„ „ „ „ 1920	..	..	..	..	1½
„ „ „ „ 1921	..	..	..	..	2
Amount of coal in hand for 1922		18

Theoretically, the amount of coal in hand is still a little under 18 tons, but during the five years' storage much of it has crumbled to waste. There is also the loss due to a second cartage with regard to some of the depots, and the loss due to the difficulty in estimating the exact weight in such small amounts as 2 cwt., which was the highest amount ever granted at once. So far as one can judge there are still about four tons stored at the Pollard Street yard, and this amount would quickly disappear were it not for the distance from many of the districts to this depot.

As in preceding years, we have endeavoured to use these grants of milk and coal as a means towards the better nursing of young patients at home, and have insisted upon the necessary instructions given by the Health Visitors being carried out, as far as means would permit, wherever relief has been given.

Verminous Work.

The number of notifications received from the Education Authorities in respect of verminous cases shows a slight increase, 514 having been sent in this year as compared with 498 in 1920.

41 notifications were received as regards cases of scabies. In this particular instance the word "case" means households affected. This figure is slightly less than in the preceding year.

33 children in all were sent to the Cleansing Station by the Education Authorities throughout the year—a slight increase. Of these, 8 had body vermin only, 2 had head vermin only, and 23 had body and head vermin.

The Cleansing Station was in use for this purpose on eight days only. It was also used by us on one other day for the cleansing of 3 special scabies cases where conditions were beyond cleansing by home methods.

Legal proceedings were taken by the Education Department against the parents on account of the persistent verminous condition of their children in 8 instances, and 4 fines of 10s. each, 2 of 7s. 6d., and 2 of 5s. were imposed. The Cleansing Nurse was required to give evidence in each case.

Some cases of neglect, both verminous and under other sections of the work, were reported to the N.S.P.C.C. 17 such cases were referred throughout the year, and visits from the Society's Officers have been helpful even without resorting to prosecution. One case was prosecuted and the Health Visitor's evidence was required.

We are again indebted to the Lord Mayor, through whose kindness we received a supply of Charity Forms, which enabled us to recommend a number of necessitous cases for gifts of sheets or quilts. Also, we have again been the

grateful recipients of a very large number of flannel garments for infants from Miss Margaret Ashton, who kindly arranged for their being made. These garments were of very great assistance to the Health Visitors, as thereby they not only relieved cases of distress but were also able to demonstrate to the mothers the right type of garment a child should wear.

The retirement of Miss Ashton from the City Council in November can be nowhere more keenly felt than in that "Department" which we were always pleased to think she considered so specially her own; and for the ever ready help, the sympathetic understanding of our difficulties, and the time and trouble which she so generously expended on our behalf our very warmest thanks are due.

A summary of the work done by the two Health Visitors under the supervision of the Ladies' Society for Visiting the Jewish Poor, and of the Medical Officer of Health, is given in the following tables:—

Work of the Jewish Health Visitors during the Year 1921.

DISTRICT	HOUSE-TO-HOUSE INSPECTIONS								RE-INSPECTIONS			Primary Infants	Subsequent	Children from 1 to 5 years
	Number of Visits	Overcrowdings	Disrepair	Dirty	Cellars Dirty or Dilapidated	Yards Defective	W.C.'s Defective	Referred to Sanitary Dept.	Number	Defects Remedied	New Complaints Referred			
Red Bank ..	675	..	65	3	13	14	5	377	375	295	146	179	1353	1328
Strangeways ..	682	..	306	..	44	118	58	88	160	58	47	87	693	810
TOTAL ..	1357	..	371	3	57	132	63	465	535	353	193	266	2046	2147

Limewashing.

DISTRICT	Bed-rooms	Kitchens	Yards	W.C.'s	Cellars	Coal Places	Ceilings	Stair-cases	Sculleries
Red Bank ..	12	1	15	17	13	..	43	..	6
Strangeways ..	..	..	5	..	..	..	..	..	..
TOTAL ..	12	1	20	17	13	..	43	..	6

TABLE 1.—HEALTH VISITORS' WORK, 1921—DETAILED STATEMENT.

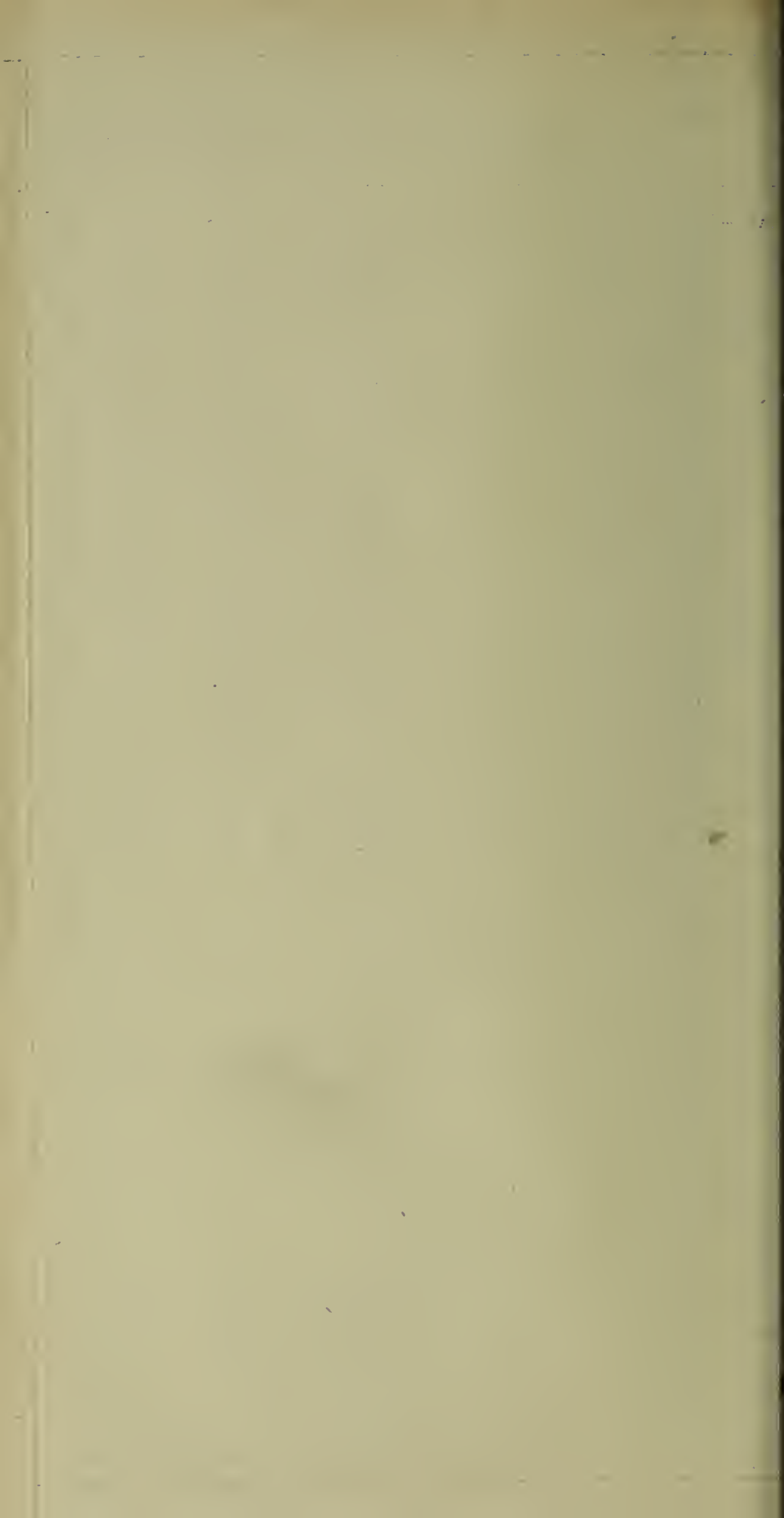


TABLE 3.

DISTRICT	Number of Health Visitors working in the District	Number of Deaths of Children under one year of age	CAUSES OF DEATH—1921. CHILDREN UNDER 12 MONTHS.											
			Bronchitis and Pneumonia	Prematurity	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths, including Want of Attention at Birth	Influenza	Measles	Whooping Cough	Other Causes
Ancoats	5	173	37	31	11	39	9	2	4	2	..	..	4	34
Central—London Road	1	35	5	9	4	5	2	1	..	1	..	..	1	7
St. George's, including Monsall West	5	185	36	42	17	24	11	4	5	4	2	..	10	30
Gorton-upon-Medlock	4	151	27	18	17	29	16	5	4	4	...	...	7	24
Hulme and Deansgate	6	227	55	36	17	48	13	2	..	5	2	..	9	40
Ardwick	4	119	19	27	11	18	9	3	2	1	..	..	8	21
Levenshaw	1	24	6	3	1	5	3	..	1	..	..	..	..	5
West Gorton, including Longsight	2	55	11	6	5	9	7	..	2	1	2	...	3	9
Gorton	3	74	16	19	4	4	7	1	1	..	2	..	4	16
Levenshaw	1	26	7	4	3	2	4	..	1	1	..	..	2	2
Newton, including Miles Platting and Monsall East ..	4	99	21	20	7	13	6	1	2	..	4	..	7	18
Bradford	1	32	10	4	5	5	1	..	..	..	..	...	3	4
Harpurhey	1	33	8	8	2	4	4	..	1	1	..	..	2	3
Blackley	1	23	6	4	2	1	1	2	..	..	..	..	1	6
Special Districts	2	51	9	11	8	4	2	1	..	..	1	..	2	13
Clayton	1	43	7	6	11	8	1	..	..	1	..	..	3	6
Moston	1	34	5	9	1	2	7	1	..	1	..	..	2	6
Moss Side	1	42	7	10	6	3	1	1	..	1	..	..	3	10
Rusholme	1	31	6	8	2	1	3	..	..	..	..	..	3	8
Kirkmanshulme and Levenshulme	1	33	3	8	4	6	..	2	1	..	..	..	3	6
Total	46	1,490	301	283	138	230	107	26	24	23	13	..	77	268

TABLE 4.

DISTRICT	Number of Health Visitors working in the District	Number of Deaths in Families visited among Children 1 to 5 years of age	CAUSES OF DEATH—1921. CHILDREN ONE TO FIVE YEARS										
			Bronchitis and Pneumonia	Debility and Marasmus	Enteritis	Convulsions	Tuberculosis	Syphilis	Accidental Deaths, including Want of Attention at Birth	Influenza	Measles	Whooping Cough	Other Causes
Ancoats	5	72	35	..	8	6	2	..	4	..	..	9	8
Central—London Road	1	15	8	1	4	1	..	..	..	..	..	..	1
St. George's, including Monsall West	5	90	36	..	8	2	9	..	5	..	..	10	20
Chorlton-upon-Medlock	4	60	24	1	5	2	4	..	1	..	..	6	17
Hulme and Deansgate	6	113	47	1	13	1	11	..	1	1	..	8	30
Ardwick	4	50	17	..	10	1	9	..	2	..	1	2	8
Openshaw	1	20	8	..	..	1	3	..	1	..	..	1	6
West Gorton, including Longsight	2	24	11	1	1	1	2	..	..	..	..	5	3
Gorton	3	34	18	1	1	3	1	..	2	1	1	2	4
Beswick	1	12	6	..	..	..	..	..	..	..	..	3	3
Newton, including Miles Platting and Monsall East ..	4	43	16	..	8	..	1	..	2	..	..	8	8
Bradford	1	21	8	2	1	..	1	..	1	..	1	3	4
Harpurhey	1	15	7	1	1	..	2	..	..	..	..	1	3
Blackley	1	9	1	1	1	..	2	..	2	..	..	..	2
Special Districts	2	34	13	..	3	..	4	..	6	1	..	3	4
Clayton	1	8	3	..	1	..	1	..	..	..	..	1	2
Moston	1	3	2	..	..	..	..	..	..	..	..	..	1
Moss Side	1	11	4	..	2	1	1	..	..	..	..	1	2
Rusholme	1	1	..	..	..	..	1	..	..	..	..	..	..
Kirkmanshulme and Levenshulme	1	4	1	..	..	..	1	..	1	..	..	..	1
Totals	46	639	265	9	67	19	55	..	28	3	3	63	127

TABLE 5.
SUMMER DIARRHŒA. CASES VISITED BY THE HEALTH VISITORS, 1921.

Year	Total Number of Cases Visited	Number of Cases Occurring in			Districts																					Number Affected under one year of age	Method of Feeding at Onset of Illness			Deaths			
		July (15th-31st)	August	September	Ancoats	London Road	St. George's and Monsall	Ardwick	Hulme and Deansgate	Chorlton-upon-Medlock	Beswick	Bradford	West Gorton and Longsight	Gorton	Openshaw	Miles Platting	Newton	Blackley	Harpurhey	Special Districts	Clayton	Moston	Moss Side	Rusholme	Kirkmanshulme, Etc.		Withington	Breast	Mixed	Hand	Total Number	Number under one year of age	Number under four months of age
1917	636	115	335	166	116	18	131	43	90	31	34	39	32	12	18	11	15	..	..	..	..	..	..	..	..	..	325	68	64	194	129	90	..
1918	313	51	179	83	42	16	28	32	77	23	11	7	5	29	19	10	12	1	..	1	..	..	..	..	..	..	175	43	31	101	42	28	..
1919	174	23	108	43	17	13	17	17	39	17	1	19	5	7	5	3	6	2	1	..	..	..	..	..	..	..	100	24	22	54	53	42	32
1920	216	27	78	111	35	8	22	22	41	12	3	6	8	25	7	3	9	1	4	10	..	..	..	..	..	..	124	34	20	70	52	41	18
1921	730	152	357	221	76	30	119	63	128	35	9	82	19	37	15	12	16	3	21	42	15	11	1	..	..	..	387	96	65	226	117	96	42

2.—SHOWING THE WORK DONE BY THE HEALTH VISITORS DURING THE YEAR 1921
AND COMPARING IT WITH THE WORK DONE IN 1917, 1918, 1919, AND 1920.

Classification of Visits	Number of Visits Paid in 1917	Number of Visits Paid in 1918	Number of Visits Paid in 1919	Number of Visits Paid in 1920	Number of Visits Paid in 1921
ry visits to Infants	9,027	9,078	10,861	15,532	17,677
quent visits to Infants	57,132	48,543	55,201	55,941	66,640
quent visits to Children over ar of age and under 5 years	22,036	36,540	58,936	71,479	99,786
visits <i>re</i> Infants and Young dren	1,243	2,203	1,588	1,270	1,182
to House Inspections .. .. .	....	....	4,475	3,701	....
pections .. .. .	....	....	....	....	....
l visits <i>re</i> Sanitary Defects ..	1,541	1,574	1,486	1,889	1,547
<i>re</i> Limewashing	1,977	1,783	2,258	2,284	2,778
ry visits to Verminous Cases (including Scabies)	709	966	631	704	631
quent visits to Verminous Cases	2,233	2,771	2,328	1,724	2,085
s Investigations	10,818	8,026	8,509	9,700	1,124
quent visits	23,295	15,516	13,792	17,710	1,639
n Measles Investigations ..	650	532	109	98	249
quent visits	591	665	95	119	408
ing Cough Investigations ..	536	5,714	970	2,302	4,114
quent visits	705	14,002	1,422	4,726	8,165
<i>re</i> Relief	1,069	1,020	1,197	406	478
<i>re</i> Influenza	149	2,252	5,636	519	235
<i>re</i> Pneumonia .. .. .	....	....	653	3,058	4,685
" Out "	16,844	20,420	18,697	19,571	21,595
Investigations .. .. .	....	....	....	495	3,739
Total visits	150,555	171,605	189,062	213,228	238,757
er of Health Visitors at end of Year	36	Average for year 40 (4 Health Visitors doing only Measles and Whooping Cough Cases)	45 (4 Health Visitors doing only Measles and Whooping Cough Cases)	49 (4 Health Visitors doing only Measles, Whooping Cough, and Pneumonia Cases)	49 (4 Health Visitors doing only Measles, Whooping Cough, and Pneumonia Cases).
er of Districts worked	32 (Blackley not worked owing to pressure of other work)	38	41	45 (7 temporary Measles. Visitors also worked for three months)	46

MATERNITY AND CHILD WELFARE.

Dr. Drummond has general supervision over the whole of the Maternity and Child Welfare work, though, considering the magnitude of the department, it is fortunate that she can delegate the Health Visitors' section to Miss Seed. She retains, however, supervision over the work done under the Midwives Acts, over the Milk Scheme, and over the Maternity and Child Welfare Centres.

Her report on the Midwives Acts is on accustomed lines, and calls for little comment. During the last two years puerperal fever has been ascending, and though the greater part of the increase is due to an increased number of births and possibly, in some measure, to an alteration of the class on which the chief incidence of the increase has fallen, the increase itself must, all the same, be regarded with uneasiness, and calls for special study and effort.

The statement on the Milk Scheme bears the mark of care and judicious management.

The figures relating to the Maternity and Child Welfare Centres record steady advance in the objects pursued and in the methods adopted.

Particularly gratifying are the increase in massage, in the visits of superintendents to the homes, in the prematernity Clinics, and in the venereal disease Clinics.

Dr. Drummond also furnishes returns *re* cases of "ophthalmia neonatorum."

REPORT ON THE WORK OF THE MIDWIVES' DEPARTMENT FOR THE YEAR 1921.

BY DR. M. A. C. DOUGLAS DRUMMOND.

The number of midwives who gave notice of their intention to practice in Manchester during 1921 was 164; of these, 20 reside without the City. In the course of the year one midwife died, ten removed from the area, four gave up work, and one was removed from the Roll of the Central Midwives Board.

From returns made by the midwives, 11,905 births were attended by them. The total registered births in the City numbered 17,601. It will be seen from these figures that about 68 per cent. were attended by midwives, as against 61 per cent. in 1920.

INSPECTION OF MIDWIVES.

Under the direction of Dr. Douglas Drummond the inspection of midwives has been carried on by Miss A. Austin, who had acted as Special Midwifery Nurse for eight years, and who was appointed as Assistant Inspector of Midwives on February 13th, 1920.

530 visits were paid, and on 207 occasions midwives were interviewed at the Public Health Office. In 3 instances the houses were found dirty, and 8 bags were unsatisfactory and incomplete. Six registers were found to be not entered up to date. In 1920 the corresponding figures were 502 visits, 29 interviews, 3 dirty houses, 7 unsatisfactory bags, and 4 incomplete registers.

PUERPERAL INFECTION.

During the year 1921, against an average of 106 cases in the sixteen years 1905-20, 138 cases of puerperal infection were notified, of which 23 occurred after abortion or premature labour. Of the abortions, 14 were at the second or third months of gestation, 3 at the fourth month, 2 at the sixth, 2 at the seventh, and 2 during the eighth month of pregnancy.

The total fatal cases numbered 28, of which 6 were connected with premature labours, as against an average of 24 in the sixteen years 1905-20.

The attack-rate per 1,000 births was 7·84, against 7·63 in 1920, whilst the case fatality per cent. was 20·3, against 22·5, the average for the years 1905-1920.

The mortality from puerperal fever per 1,000 births was 1·59, against an average of 1·41 in the preceding 10 years.

Table relating to the cases of Puerperal Fever attended either by midwives or doctors during 1921, as compared with the average of the 16 years, 1905-1920 :—

Years	Number of Cases attended by					
	Midwives		Doctors		Midwife and Doctor	
	Attacks	Deaths	Attacks	Deaths	Attacks	Deaths
1905-1920 ...	39	7	50	13	16	4
1921	40	5	79	19	19	4

Out of 138 cases notified, 28 patients were nursed at home, and 25 recovered ; 83 cases were removed to Monsall Hospital, and 65 recovered, the case mortality being 21·7 per cent. The remaining 27 cases were treated in other institutions, and 20 recovered.

Subsequent visits were paid to 103 women who recovered, and, with the exception of 14, all were in good health.

The particulars as to the character of the labour and the results for 1921 are :—

	No. of Cases	Recovery	Death
Normal full term labour	81	67	14
Abnormal full term labour	34	26	8
Abortion or premature	23	17	6

SUSPENSION OF MIDWIVES.

One hundred and twenty-two suspensions of midwives from their work occurred, chiefly on account of their having been in attendance on cases of puerperal infection or other septic conditions.

RECORDS OF CALLING IN MEDICAL AID.

During the year 1921 the number of medical records received was 4,033, as compared with 4,058 in the previous year. The numbers under the various reasons given for having advised medical aid correspond to those in previous years (see table herewith).

NUMBER OF CASES OCCURRING IN 1921 IN WHICH THE MIDWIFE ADVISED THAT A REGISTERED MEDICAL PRACTITIONER SHOULD BE SENT FOR (RULE E). ALSO THE NUMBER OF APPLICATIONS FROM MEDICAL PRACTITIONERS FOR PAYMENT OF THEIR FEES FOR ATTENDING CERTAIN EMERGENCY CASES.

Period	Medical aid called in on account of the following causes, as stated by the Midwife	Total	*Application for Fees
Pregnancy	Abortions, miscarriages	27	7
	Deformed pelvis	27	1
	Loss of blood	24	6
	Other unusual features of pregnancy	274	2
Labour	Presentations { Head—Malpositions	17	21
	{ In primiparæ	2	8
	{ Breech { In multiparæ	21	2
	{ Para not stated	39	29
	{ Transverse	12	8
	{ Funis	34	17
	{ Unable to make out	22	2
	{ Footling	13	—
	{ Hand	21	—
	Tedious labour { Forceps used	39	192
	{ No record as to forceps	531	25
	Placenta { Retained	41	20
	{ Adherent	35	9
	Membranes retained	37	12
	Rupture of perineum	842	254
	Hæmorrhage .. { Ante partum	61	18
	{ Post partum	35	20
	{ Hæmorrhage—3rd stage	4	—
Lying-in	Convulsions	10	3
	Complications	43	6
	Premature labour	1	1
	Abdominal swellings	—	—
	Foul-smelling discharges	7	2
	Secondary post-partum hæmorrhage	2	1
	Rigor	2	1
Newly-born Child	Rise of temperature above 100.4° F	59	22
	Unusual swelling of breasts	19	4
	Progress unsatisfactory or complications	233	37
	Injuries received during birth	1	1
	Obvious malformations	76	7
	Tongue-tied	51	—
	Feebleness of child	151	51
	Inflammation of eyes and eyelids	724	64
	Skin eruption	37	4
	Illness from prematurity	164	—
	Jaundice	67	3
	Inflammation about the umbilicus	49	3
	Unspecified or complications	149	19
	Convulsions	30	1
TOTALS		4,033	882

* These applications have been classified according to the conditions requiring treatment found by the medical practitioner.

MIDWIVES ACT, 1918—MEDICAL ASSISTANCE TO MIDWIFE IN CASE OF EMERGENCY.

Under Section 14 (1) of this Act a midwife is required, in case of any emergency as defined in the rules, to call in to her assistance a registered medical practitioner, and the local supervising authority is required to pay such medical practitioner a fee as prescribed by the Ministry of Health. The local supervising authority has power to recover the fee from the patient or husband unless they are unable, by reason of poverty, to pay such fee.

Arising out of this Section, 882 applications were received from medical practitioners for payment of their fees. Investigations were made as to the circumstances of the families concerned, and it was found that in 392 instances the incomes were below the scale, 348 appeared to be in a position to pay the fees themselves, and 33 paid the fees direct to the doctor. The remaining 109 did not fulfil the conditions. Thus the local supervising authority paid the medical practitioners in 740 instances, and endeavoured to recover the fees in 348 of these.

The total sum paid during the year ending March 31st, 1922, was £868 9s. od., and of this £340 4s. 4d. was recovered from those people who were in a position to pay.

Four applications for fees were received from midwives for attendance on the confinements of women in special need of assistance. Two fees were paid, the total amount being £1 7s. 6d.

STILL-BIRTHS.

The total number of still-births reported to the Office during the year was 605, as against 657 in the previous year. Out of the 605 still-births, 366 occurred in the practice of doctors (these are ascertained from the Cemeteries' returns) and 229 in the practice of midwives. The percentage of still-born children was 3·4; in 1920 it was 3·4.

The summary of causes to which it seemed reasonable to credit the still-births shows the principal numbers to be :—

Definite history of ill-health of the mother	60
Accident to the mother before confinement	32
Drink to a marked degree in one or both parents	5
Shock	9
Probable drug-taking to procure abortion	3
Breech presentations, full time and premature	13
Employment of mother	6
Ante-partum hæmorrhage	8
Insufficient help at delivery	11
Probable specific disease from family history	10
Twin pregnancies—full time and premature	14

The still-birth rate was highest in Bradford, St. George's, Ardwick, Openshaw, and Newton.

DEATHS OF NEW-BORN CHILDREN.

Notifications of 20 deaths of new-born children before a medical practitioner could be obtained were received and investigated. In 12 instances inquests were held. In 2 cases "Want of attention at birth" was the verdict, Asphyxia 6, and in 4 "Accidental suffocation." In 8 cases the City Coroner did not consider it necessary to hold inquests.

DEATH OF THE MOTHER.

No cases of death of the mother before a medical practitioner could be obtained were notified during the year.

CHARGES OF MALPRACTICE, NEGLIGENCE, OR MISCONDUCT.

During the year four midwives were summoned to appear before the Maternity and Child Welfare Sub-Committee to answer charges of negligence.

The Committee found it necessary, in the case of one of these midwives, to make a report under this heading to the Central Midwives Board for failing to advise medical aid for a case of ante partum hæmorrhage and being of unsober habits. The midwife was removed from the Roll.

WORK OF THE SPECIAL NURSES.

The work done by the nurses during the year 1921 has been tabulated, and is as follows :—

Still-births investigated	234
Deaths of newly-born infants investigated	20
Cases of Puerperal Fever nursed at home	21
Nursing visits paid to 21 cases and to 31 patients with raised temperatures	849
Old Puerperal Fever cases investigated to ascertain subsequent histories	135
New Puerperal Fever cases investigated to ascertain histories ..	111
Nursing visits paid to cases of Mammary Abscess	324
" " " " Phlebitis	58
" " " " Septic Skin Affections in mothers ..	18
" " " " Houses Infected with Chicken Pox ..	20
" " " " " " " Scarlet Fever ..	8
" " " " " " " Diphtheria ..	11
Number of cases of Skin Affection in newly-born infants.. ..	60
Nursing visits paid to these infants	480
Number of nursing visits paid to cases of Spina Bifida	108
" " " " cases of Septic and unsatisfactory Umbilicus	630
Special investigation visits concerning medical records, including visits paid to doctors	267
Special investigations into births	860
Nursing visits paid for midwives during suspension and when unable to obtain a qualified substitute	38

MATERNITY HOMES AND HOSPITALS.

BY DR. M. DOUGLAS DRUMMOND.

Reference was made to the number of Maternity Homes and Hospitals on page 190 of last year's Annual Report, and on page 166 in the previous year.

The Manchester Corporation (General Powers) Act, 1921, has made provision for the Registration of Maternity Homes. Existing Homes were required to be registered by the first day of January, 1922. In eleven instances applications for registration have been received.

The following Bye-laws have been made in accordance with section 53 of the above Act :—

MATERNITY HOMES.

Bye-laws.

The Lord Mayor, Aldermen, and Citizens of the City of Manchester, in Council assembled in the Town Hall, Albert Square, in the City of Manchester, on the 4th day of January, 1922, do hereby, under or by virtue and in pursuance of the powers vested in them by section 53 of the Manchester Corporation (General Powers) Act, 1921, make the following bye-laws, namely :—

1. In these bye-laws the word or expression "City" means the City of Manchester, and "Medical Officer of Health" means the Medical Officer of Health for the City of Manchester.
2. Every person who carries on a Maternity Home in the City shall keep the following records :—
 - (a) A record to be called the "Register of Patients" in the form set out and giving the particulars mentioned in the Schedule to these bye-laws with respect to each patient admitted to and for the time being an inmate of the Maternity Home.
 - (b) A record to be called the "Case Record" giving the particulars mentioned in the Schedule to these bye-laws with respect to each patient admitted to and for the time being an inmate of the Maternity Home.
 - (c) A record with respect to the business carried on at the Maternity Home to be called "The Business Register" in the form set out and giving the particulars mentioned in the Schedule to these bye-laws.
3. Every person who carries on a Maternity Home in the City shall keep or cause to be kept the records mentioned in the foregoing bye-law in good and proper order and condition, and shall cause all the necessary particulars and any alterations or additions thereto to be fully and punctually entered from time to time therein in a legible manner.
4. Every person who carries on a Maternity Home in the City shall notify the Medical Officer of Health of any death occurring at the home within 18 hours thereafter.

THE SCHEDULE REFERRED TO
REGISTER OF PATIENTS.

Name	Age	Residence
Date of admission		
Stage of Pregnancy on admission		
Fee charged		
Additional fee { Doctor Midwife		
Examination of Urine		
Illness due to abnormal causes, and action taken		
Date and hour of delivery		
Sex of child		
Eye affection (if any)		
Put to breast		
Date of discharge or death of mother		
"	"	" child

CASE RECORD.

Daily statement of the health of mother and child, with pulse, respiration and temperature, taken in the flexure of the thighs or in the axilla, showing the action taken in case of illness.

BUSINESS REGISTER.

Number in family of person carrying on the Maternity Home, with the sex and ages.

Number of Nursing Staff, with their names and ages.

Number of Domestic Staff.

Number of rooms in the Maternity Home, with their situation and mode of occupation.

Number of beds allocated to patients.

Number of beds allocated to maternity cases.

Number of beds allocated to other cases.

Number of lodgers received (if any).

Number of nurse children received (if any).

The Common Seal of the Corporation of
the City of Manchester was hereunto
affixed in pursuance of an Order of
the Council of the said City in the
presence of

E. D. SIMON,
Lord Mayor.

THOMAS HUDSON,
Town Clerk.



No. 52682

Allowed by the Minister of Health this
ninth day of March, 1922.

F. L. TURNER,
Assistant Secretary, Ministry of Health.



NOTE.—By Section 55 of the Manchester Corporation (General Powers) Act, 1921, every person who carries on a Maternity Home in contravention of the provisions of any of the above Bye-laws is liable to a penalty not exceeding £5 and to a further penalty not exceeding £2 for each day on which the offence continues after conviction thereof, and the Court may, in addition to imposing a penalty, order the cancellation of the registration.

The tables which follow set forth the work done during the year under the Milk Schemes, and the work of the Maternity and Child Welfare Centre

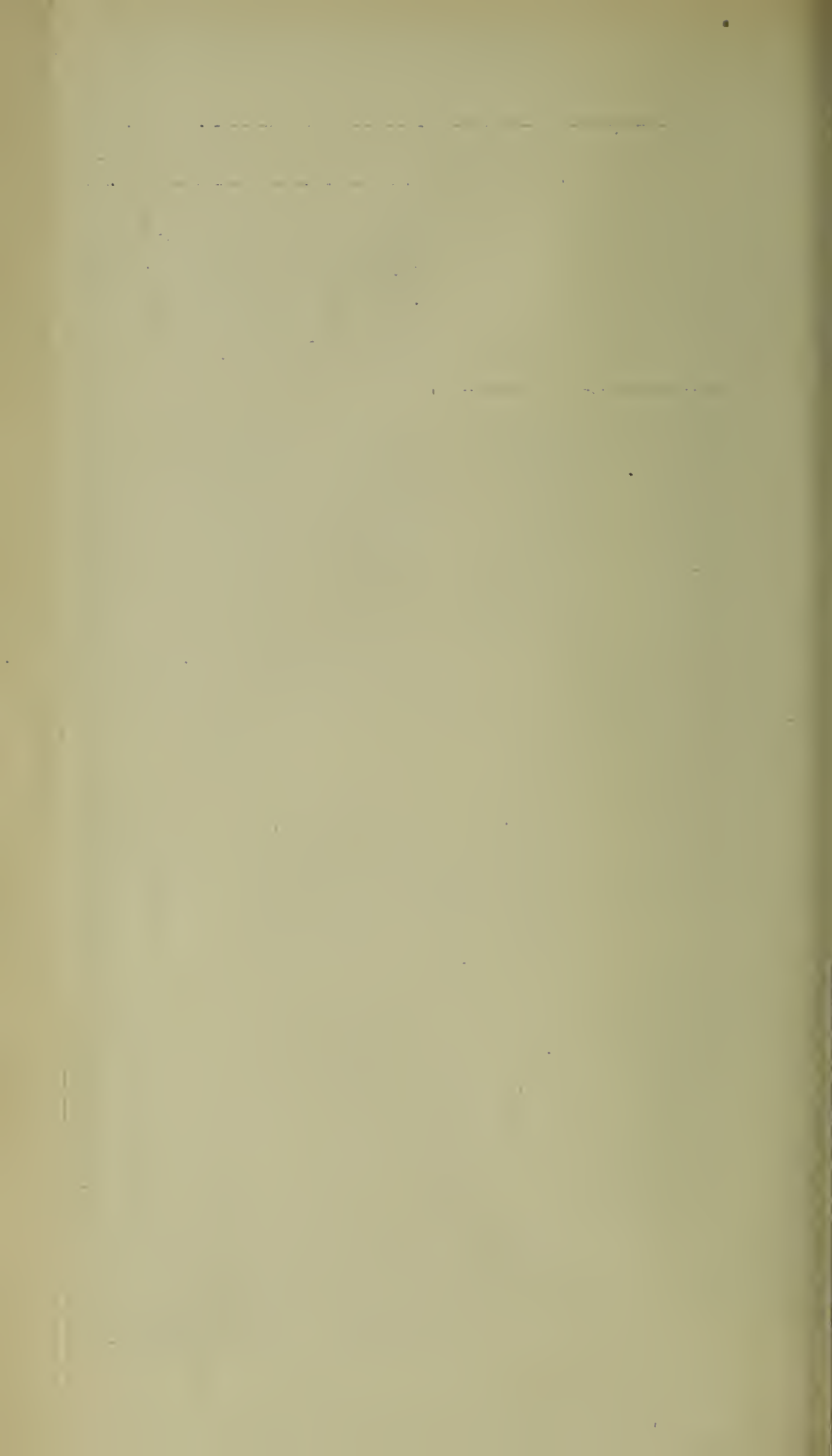
PROVISION OF MILK AND DRIED MILK AT REDUCED COST DURING THE YEAR 1921.

STATEMENT SHOWING NUMBER OF CASES RECEIVING MILK, AMOUNT SOLD, COST, AND MODE OF DISTRIBUTION.

CENTRES	Rosamond Street West	Manipur Street	Cheetham Hill Road	135, Pollard Street, Ancoats	93, Hamilton Street, Collyhurst	Hyde Road, West Gorton	Lower Moss Lane	Higher Ardwick	Didsbury	Levenshulme	Rusholme	Abbey Hey	Newton	Harpurhey	Elm Street	Holy Name	St. Aloysius	TOTAL	Rosamond Street West	Manipur Street	Cheetham Hill Road	135, Pollard Street, Ancoats	93, Hamilton Street, Collyhurst	Hyde Road, West Gorton	Lower Moss Lane	Higher Ardwick	Didsbury	Levenshulme	Rusholme	Abbey Hey	Newton	Harpurhey	Elm Street	Holy Name	St. Aloysius	TOTAL	Rosamond Street West	Manipur Street	Cheetham Hill Road	135, Pollard Street, Ancoats	93, Hamilton Street, Collyhurst	Hyde Road, West Gorton	Lower Moss Lane	Higher Ardwick	Didsbury	Levenshulme	Rusholme	Abbey Hey	Newton	Harpurhey	Elm Street	Holy Name	St. Aloysius	TOTAL	
	TOTAL NUMBER HAVING MILK AT END OF DECEMBER, 1920																		TOTAL NUMBER HAVING MILK																		AMOUNT OF MILK SOLD (PINTS)																		
37 94 65 20 21 31 29 28 4 9 18 4 12 7 0 0 6 385																																																							
NUMBER OF NEW CASES PUT ON MILK																																																							
4 weeks ending	January 29th ...	27	68	18	19	23	19	13	16	1	1	2	2	5	2	...	2	3	221	188	477	259	139	120	150	117	150	13	36	74	27	61	23	...	2	28	1864	1632	4320	2396	1323	1216	1284	1171	1434	130	287	619	210	531	213	...	17	227	17010
February 26th ...	16	78	22	16	32	34	23	20	3	1	9	17	4	277	229	705	334	203	227	244	189	208	12	34	70	24	84	71	...	10	38	2682	2002	6681	3147	1896	2218	2109	1799	1970	128	287	678	186	009	532	...	76	247	24565	
March 26th ...	16	84	22	11	38	38	12	21	1	1	5	7	9	9	6	280	274	936	405	222	302	350	182	238	11	38	94	54	95	95	...	10	44	3350	2453	8897	3815	2047	2933	3388	1760	2280	115	316	784	479	924	913	...	89	396	31589	
April 30th ...	11	54	6	8	16	6	11	21	...	3	3	...	9	8	156	258	987	344	183	292	350	178	286	14	48	109	65	106	116	...	9	54	3399	2119½	8033	2842	1477	2464	2660	1477	2327½	133	357	889	448	1075	927½	...	70	437½	27737	
May 28th ...	1	19	4	6	9	...	3	5	7	4	1	59	89	486	98	83	97	128	77	127	6	39	61	31	50	70	15	1457	623	3370	672	581	679	1043	539	847	42	280	420	201	350	503	105	10255	
June 25th ...	7	29	7	7	13	2	4	4	3	1	8	85	110	461	96	99	111	108	96	115	8	43	54	32	47	70	8	1458	836	3227	679	742	746	763	685	801	56	308	364	236	329	525	50	10353	
July 30th ...	4	53	6	14	15	8	12	9	6	...	3	7	3	140	136	701	122	153	151	125	124	163	12	38	69	55	48	104	20	2021	987	4922	854	1132	1075	882	928	1172	84	266	497	390	377	763	151	14480	
August 27th ...	10	36	11	4	10	2	9	7	1	2	7	2	2	103	96	523	103	95	114	81	101	132	8	14	55	36	38	68	22	1486	675	3644	721	725	824	567	707	944	56	98	385	255	273	476	147	10497	
September 24th...	6	40	4	3	17	4	11	6	2	4	4	101	99	586	82	114	133	76	109	120	16	14	51	25	48	56	18	1547	721	4057	574	785	925	526	756	843	112	98	357	175	336	392	119	10776	
October 29th ...	9	36	6	4	9	4	5	13	...	2	...	3	...	6	1	98	174	760	110	129	175	107	125	171	11	16	55	35	58	83	2	...	2	2013	1137	5250	763	906	1242	749	903	1120	77	112	378	245	406	581	14	...	14	13897	
November 26th...	4	43	3	6	9	6	15	8	1	1	1	1	1	6	1	105	135	536	71	64	122	84	109	128	16	15	34	35	36	71	6	1462	952	3770	497	448	854	589	763	882	112	98	238	245	252	497	42	10239
December 31st...	9	35	8	5	12	10	4	18	2	2	6	9	120	168	771	117	103	206	110	130	226	20	9	39	52	49	94	9	2103	1109	5348	819	721	1442	805	924	1557	140	63	294	329	343	658	63	14615
TOTALS ...	120	575	117	103	203	133	122	148	2	10	23	23	61	82	2	2	19	1745	1956	7929	2141	1587	2050	1913	1537	2064	147	344	765	471	720	921	17	31	249	24842	15246½	51519	17779	12783	16618	15365	12412	16177½	1185	2570	5903	3399	5895	6890½	119	252	1899½	196013	

CENTRES	Rosamond Street West	Manipur Street	Cheetham Hill Road	Pollard Street, Ancoats	93, Hamilton Street, Collyhurst	Hyde Road, West Gorton	Lower Moss Lane	Higher Ardwick	Didsbury	Levenshulme	Rusholme	Abbey Hey	Newton	Harpurhey	Elm Street	Holy Name	St. Aloysius	TOTAL	DRIED MILK				
	TOTAL COST TO CORPORATION																		No. of New Cases	No. on Dried Milk	Amount Sold (lbs.)	Cost to Corporation	
4 weeks ending	January 29th ...	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	81	910	1675	£ s. d.
February 26th ...	31 18 9	85 10 8	52 19 2	24 5 4	25 18 5	23 2 10	22 14 2	28 6 9	1 17 0	4 8 5	9 3 6	4 0 4	9 15 4	4 1 2	...	0 8 1	3 7 0	331 16 11	126	1305	2353	149 8 0	
March 26th ...	38 13 10	131 14 3	59 3 5	36 18 1	47 6 2	41 1 4	38 18 4	39 9 8	1 18 8	3 10 8	10 16 4	3 10 8	15 10 8	14 3 4	...	2 1 2	4 16 7	489 13 2	123	1509	2959	222 3 0	
April 30th ...	46 17 11	182 1 3	81 15 10	40 9 1	63 10 2	65 15 6	38 2 4	41 16 5	2 0 2	4 13 4	11 9 5	10 3 9	18 10 7	18 12 1	...	1 16 11	7 3 2	634 17 11	94	1919	2583	279 2 10	
May 28th ...	33 13 11	131 7 10	48 14 4½	21 4 6	43 3 9½	44 8 7½	25 10 0	34 15 9	1 18 1½	4 4 2½	10 17 5	8 0 10½	14 8 6½	15 1 7	...	1 5 0	7 6 0	446 0 6½	42	1343	1316	71 5 8	
June 25th ...	4 15 5	26 4 0	5 13 6	4 10 6	5 3 10	8 4 4	4 2 7	6 15 1	0 6 8	2 3 8	3 9 0	1 13 11	2 14 11	3 17 1	...	...	0 16 0	80 10 6	48	1306	1322	80 5 5
July 30th ...	6 10 0	29 3 0	6 18 0	6 1 0	7 15 8	5 13 0	6 11 11	7 17 6	0 8 0	2 7 0	2 16 0	1 17 0	3 2 0	5 3 8	...	...	0 8 0	92 11 9	110	1919	1971	138 19 11
August 27th ...	8 10 10	55 14 0	10 0 0	10 13 6	15 1 8	8 2 0	10 0 9	12 9 6	0 12 0	2 9 0	4 2 0	3 19 0	4 7 1	8 8 9	...	...	1 19 6	156 9 7	100	1556	1579	116 5 3
September 24th...	7 6 2	42 3 0	9 14 6	7 4 2	10 0 10	5 17 6	8 19 0	11 7 2	0 8 0	1 1 8	4 2 6	3 3 6	3 1 0	5 12 9	...	...	2 5 4	122 7 1	93	1601	1640	128 9 7
October 29th ...	9 0 10	53 2 3	8 12 8	9 18 9	12 8 10	6 10 8	9 17 2	10 8 10	1 12 8	1 3 4	4 9 10	1 15 0	3 19 4	4 15 8	...	...	1 19 8	139 15 6	81	1994	2033	154 4 1
November 26th...	15 13 8	68 0 4	11 2 10	10 17 4	15 5 6	8 5 8	10 3 0	14 14 0	1 2 2	1 10 4	4 11 0	2 5 6	4 19 2	6 9 6	...	...	0 4 3	175 7 0	67	1412	1657	99 1 0
December 31st...	11 11 0	43 6 11	6 16 0	5 6 2	9 8 2	6 7 2	7 16 4	10 19 10	1 3 4	0 18 8	2 11 4	2 7 10	2 14 10	6 0 2	...	...	...	117 14 9	109	2058	2056	141 3 8
TOTALS ...	225 7 2	898 3 6	319 15 3½	184 4 6	268 7 6½	231 0 4½	191 6 2	235 4 0	14 11 9½	29 5 1½	70 19 0	45 16 6½	85 14 11½	99 18 1	0 18 4	5 11 2	30 5 11	2926 9 5½	1074	18832	23144	1790 17 7	





OPHTHALMIA NEONATORUM.

By DR. M. A. C. DOUGLAS DRUMMOND.

During the year 1921, 1,041 cases of Inflammation of the Eyes were notified from various sources, and visited by the Eye Nurses.

Of these, 120 were cases of disease in children and adults. 62 suffered from simple conjunctivitis, 6 from blepharitis, 1 from keratitis, 2 from dacryocystitis, 1 from iritis, 1 from orbital abscess, 1 from burn of lid, and 1 from nystagmus. 8 were cases of corneal ulcer, 11 had nebula of cornea. One child had chrymal obstruction, 1 coloboma iris, 2 glioma, 8 strabismus, 2 ptosis, and 2 congenital cataract.

921 cases of Inflammation of the Eyes of newly-born children occurred. 465 were notified by the medical attendants (either private or at the Royal Eye Hospital) as cases of ophthalmia neonatorum. Of these 238 were considered to be cases of simple conjunctivitis, leaving 227 true cases of ophthalmia neonatorum. The remaining 456 cases were notified by midwives.

Commencing in June, swabs were taken from the conjunctiva in all cases where possible, and sent to the Public Health Laboratory to be examined bacteriologically for the presence of gonococcus. During the seven months, June to December, 127 swabs were examined, and of these 35 gave a positive result.

Table A shows the distribution of cases, both as regards the districts in which they occurred and the month of the year. The cases in which the cornea was affected are also shown in this table.

The largest number of cases of true ophthalmia neonatorum occurred in St. George's, Hulme, Newton, and Chorlton-on-Medlock.

The monthly rate of notified cases varies considerably, and there seems no special reason for the rise and fall in numbers. May heads the list, followed by January, February, and June.

TABLE B—1921. OPHTHALMIA NEONATORUM. HISTORY OF MOTHER.

	Age of Mother						Parity									Labour		Attendant not present at birth	No. of mothers having had previous cases of Ophth. Neon.	History of yellow discharge	Legitimacy		Definite negligence of attendant Midwife
	Total						Ascertained									Normal	Abnormal				Legit.	Illegit.	
	Under 20	20—25	25—30	30—35 and Over	Not ascertained	Total	1	2	3	4	5	6	7	8	9+								
Notified { True ... Not True	14	46	86	43	31	227	74	57	39	23	13	6	5	4	6	—	210	17	219	8	1		
	12	40	67	57	55	238	77	57	23	25	13	12	12	6	13	—	223	15	236	2	—		
Not Notified ...	30	85	135	111	87	456	144	103	55	52	30	14	20	11	27	456	430	26	446	10	—		

Total cases notified { True Ophthalmia ... 227
Not True Ophthalmia... 238 } 921

Total cases not notified ... 456

TABLE A, 1921.—NOTIFIED CASES OF OPTHALMIA NEONATORUM AND NOTIFIED CASES FOUND TO BE TRUE OPTHALMIA NEONATORUM;
ALSO CASES REPORTED BY MIDWIVES BUT CONSIDERED TO BE CASES OF CONJUNCTIVITIS.

Month of Year	January		February		March		April		May		June		July		August		September		October		November		December		Total		Cases of Conjunctivitis reported by Midwives	Cases with Corneal Complications	
	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases	Notified Cases	True Cases			
Ancoats	4	1	3	1	4	4	1	1	2	1	—	—	5	2	—	—	1	—	2	1	—	—	2	1	24	12	22	0	
Central	—	—	—	—	—	—	—	—	3	2	1	—	—	—	—	—	—	1	—	—	—	1	1	—	—	6	3	22	1
St. George's	15	7	9	3	10	1	9	5	12	7	4	—	2	1	6	2	8	3	2	—	2	1	3	1	82	31	102	4	
Cheetham	—	—	1	1	3	3	3	1	1	—	3	—	—	—	5	3	2	2	5	4	1	—	1	—	25	14	14	1	
Crumpsall	—	—	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1	—	—	3	2	1	0	
Blackley	—	—	—	—	—	—	1	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	3	—	6	0
Harpurhey	1	—	1	1	1	—	1	—	4	3	2	—	2	2	3	2	4	2	2	2	2	2	1	—	24	14	15	0	
Moston	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	—	—	—	—	2	1	5	4	12	0	
Newton	3	2	2	1	—	—	—	—	3	2	2	1	3	2	5	4	—	—	2	1	1	1	4	3	25	17	48	1	
Bradford	3	3	1	1	—	—	2	—	2	1	2	1	1	—	1	—	2	1	4	4	1	1	4	2	23	14	31	0	
Beswick	—	—	2	2	—	—	—	—	2	1	2	—	1	1	1	—	2	2	1	1	1	1	1	—	13	8	16	0	
Clayton	1	1	—	—	1	1	1	—	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	5	3	7	0	
Ardwick	5	3	3	2	1	—	3	—	3	2	4	2	5	—	4	1	1	1	6	3	1	—	2	2	38	16	21	4	
Openshaw	—	—	3	—	3	1	—	—	1	1	2	1	—	—	—	—	2	2	—	—	1	1	1	1	13	7	6	0	
West Gorton	1	—	4	3	1	—	—	—	2	1	2	1	—	—	—	—	—	—	1	—	2	2	2	1	15	8	8	0	
Rusholme	—	—	—	—	1	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	1	1	1	—	5	1	4	0	
Chorlton-upon-Medlock	2	2	5	2	1	—	4	2	2	—	5	1	3	1	3	2	8	3	4	2	3	1	3	1	43	17	13	2	
Hulme	7	5	4	2	4	3	6	3	9	2	8	1	8	2	3	2	2	1	2	2	2	1	3	1	58	25	74	1	
Moss Side	2	2	2	1	1	—	—	—	—	—	—	—	3	2	—	—	—	—	2	1	—	—	1	1	11	7	3	5	
Withington... ..	—	—	1	1	1	1	—	—	—	—	1	—	1	1	—	—	1	1	—	—	2	1	1	1	8	6	4	1	
Gorton	1	—	1	1	—	—	—	—	—	—	2	—	—	—	2	—	3	1	3	3	1	—	1	1	14	6	10	0	
Levenshulme	2	1	1	1	5	3	2	1	2	1	4	—	1	—	1	1	—	—	4	4	—	—	—	—	22	12	17	1	
Total	47	27	44	24	37	17	33	13	51	25	45	8	35	14	37	17	40	22	40	28	23	15	33	17	465	227	456	21	
Cases with Corneal Complications ...	3		1		1		2		2		2		2		2		1		3		1		1		21				

Table C shows the day of onset, the attendant at birth, and the place of treatment.

The greatest number of onsets was on the second day of life, and in over one-half of the cases the first signs of disease appeared during the first five days.

Over one-half of the cases were treated by private doctors, and the remainder by the doctors of the Royal Eye Hospital.

In 21 instances there was involvement of the cornea, and all of these cases were admitted into the Royal Eye Hospital.

TABLE C—1921. OPTHALMIA NEONATORUM.

	Interval in days between birth and onset										Attended by				Where treated			Total		
	1	2	3	4	5	6	7	8	9	10+	Total	Midwife	Doctor	Midwife and Doctor	Total	Home	Out-Patients at Hospital		In-Patients at Hospital	
{ True ... Not True	18	34	27	23	25	28	11	29	14	22	227	179	32	16	227	104	102	21	—	227
	32	46	30	21	19	21	15	13	18	23	238	189	29	20	238	120	113	—	5	238
Not notified	48	76	53	36	44	34	43	34	35	53	456	427	6	23	456	371	37	—	48	456

Total notified cases { True 227
Not True 238 } 921

Total non-notified cases 456

The number of cases with corneal involvement was 21 in all.

19 have completely recovered, and in each of the other 2 cases one eye was lost.

In the first case the child was admitted to the Royal Eye Hospital three days after the onset. The inflammation commenced on the 10th day, and was not notified by a midwife. It received no treatment for three days, and was advised to go to the Royal Eye Hospital by the Health Visitor.

In the other case the child was treated for ophthalmia neonatorum by a private medical practitioner and was cured without any corneal involvement. At four months of age it was again seen by the doctor, who, on the following day, advised hospital treatment, and was at once admitted into the Royal Eye Hospital.

TABLE D.—CASES WITH INVOLVEMENT OF THE CORNEA.

Right Eye	..	..	..	..	..	..	..	..	7
Left Eye	..	..	..	..	..	..	..	..	5
Both Eyes	..	..	..	..	..	..	..	..	9
									—
									21
									—

Table E shows the results of the 227 cases of *true* ophthalmia neonatorum, and of 694 of conjunctivitis in *newly-born infants* :—

	Complete Recovery	One Eye Lost, Other Normal	One Eye Lost, the other Damaged	Both Eyes Lost	Both Eyes Damaged	One Eye Damaged	Death before recovery	Removed before recovery	To
True Ophthalmia Neonatorum	225	2	..	..	..	..	..	..	2
Conjunctivitis..	664	..	..	..	..	..	25	5	6
	889	2	..	..	..	..	25	5	9

Table F showing the total number of cases of ophthalmia and conjunctivitis in newly-born infants, and the percentage with corneal complications, 1911-1921 :—

Year	No. of Cases	Percentage with Corneal complications
1911	525	7·23
1912	667	11·39
1913	573	12·04
1914	681	9·25
1915	642	7·79
1916	620	6·13
1917	539	6·86
1918	567	8·64
1919	698	4·73
1920	974	4·83
1921	921	2·28

STATEMENT BY THE SPECIAL INSPECTORS.

I would call attention to the statement given by the Special Inspectors of their work during 1921. I am glad to acknowledge the help which I have often received from their intelligent co-operation and suggestions. They have selected three subjects for special comment. In my struggle, year after year, to find means by which the production of house-flies may be materially reduced, I have received many good observations and suggestions from them.

But, as a matter of fact, the fly has, on the whole, proved too many for us, aided by human allies in all sorts of places.

Their observations on flies in 1921, and on the efforts to cope with them, will give some idea of the difficulties involved.

Excellent, though limited, work was carried out in connection with pork butchers' shops. The contribution on liquid eggs is due to Inspector Higginbotham, whose enquiries were incited, in the first place, by Dr. MacFadden, C.B., of the Ministry of Health.

The last contribution on the method by which glasses can be cleaned in public houses and restaurants is also due to Inspector Higginbotham, and is of more than local interest.

Public Health Office,
Manchester,
1922.

To the Medical Officer of Health.

The Special Inspectors respectfully submit their Annual Report on the work accomplished during the year 1921. The duties have been very varied, as the following table will show :—

Table above referred to—

Visits <i>re</i> Housing (Additional Powers) Act, 1919	59
„ Nuisances	34
„ Fly Nuisances (stables, allotments, farms, tips, foundries, etc.)	2,742
„ Housing Inspections	1,764
„ Infectious Diseases... ..	19
„ Food Poisoning	12
Visits to Food Shops	248
„ Dangerous Buildings	3
„ Public Houses	40
„ Police Court	19
„ Hospitals	24
„ Child Welfare Centres	31
„ Public Health Laboratory	47
„ Works	5
„ Miscellaneous	116
Samples of Liquid Egg	11
„ Salmon	7
„ Slab and Sponge Cake	13
„ Water	3
Specifications issued for Food Shops... ..	28
„ Work completed	8
„ Work in progress	8
Interviews with Medical Officer of Health	117
Office <i>re</i> statistics, etc.	415 days

Stables.

A strenuous campaign has been conducted by the Public Health Office in connection with stables and the prevention of fly breeding, in which the whole staff of the Medical Office, including the Sanitary Inspectors, has taken part. Circulars were sent out to all horse-keepers in the City calling their attention to the provisions contained in the bye-laws as regards :—

- (a) The provision of suitable manure receptacles.
- (b) The removal of manure at least once in every seven days in accordance with the bye-laws.

Where, on inspection, the manure receptacles have been unsatisfactory, notices and specifications have been forwarded by the Medical Officer of Health to the horse-keeper, asking for the necessary work to be carried out to make the receptacles suitable and sufficient.

Careful inspections have been carried out *re* the removal of manure in accordance with the bye-laws. Where negligence in complying with same was found, reports were made to the Medical Officer of Health with a view to prosecution for non-compliance with this section. Several prosecutions have been taken at the City Police Courts and varying penalties obtained against the offending persons.

In spite of all efforts, whilst there has probably been a reduction in the number of flies from this source, very much remains to be done both as to the construction or provision of efficient receptacles and greater thoroughness in the removal of the manure. The same difficulties are still experienced with regard to removal by farmers and contractors. The arrangements break down at the time when the greatest care is necessary.

It has also been observed that flies have been liberated in large numbers from middensteads which are in a good state of repair. In almost every case it is found that the drainage hole from the middenstead is more or less blocked with larvæ, pupæ, and pupa cases embedded in a small quantity of manure. It has been ascertained over and over again, wherever newly liberated flies are found in a well-kept and well-constructed middenstead, that this is the prime cause of mischief.

Ramifications.

Great efforts have been bestowed upon stables, and the removal of manure from stables, for many years past. Probably at no period in the City's history has this work been more thoroughly done than in the year under review. This exceptional keenness exercised over stable-keepers has brought new knowledge of attendant difficulties in its train. The stable-keeper complies with the bye-law, removing his manure within seven days, but its destination is no concern of his. Hence we find that manure, containing larvæ and pupæ in

astounding numbers, is removed from stables in one part of the City and disposed of in at least four directions in other parts of the City, thus liberating the fly over a still larger area. The fly has not been destroyed.

The four directions are as follows :—

From stables to allotments ;

„ „ tips ;

„ „ railway sidings ; and

„ „ iron foundries.

Each aspect of these is dealt with hereunder.

Allotments.

A great many cases of fly infestation of dwelling-houses were proved to have originated from manure stacked on allotments. These allotments are, as a rule, situate in positions 200 to 500 yards from dwellings, whilst others are almost surrounded by houses.

The manure obtained by the plot-holders was almost invariably stored in a pile on the plot for weeks, in some cases months, before being dug into the ground. This forms an admirable centre for the development of the house fly in a warm summer. Layers of fresh manure are repeatedly added to these heaps and still further increase the heat. The eggs are generally deposited by the female flies in the fresh droppings whilst still warm, and during storage on the stable premises. This manure is removed from the stables, in accordance with the bye-laws, after a period of one to seven days. Meanwhile the fly passes through a portion of its larval stage and in many cases pupates.

The process of pupation and further development is completed on the allotment, the conditions being eminently suitable. The flies emerge from the side and top of the stack at all hours of the day. The resulting imago here obtains the full power of flight and has ample protection against birds under the pile of cabbage leaves, potato "haulms," and other refuse which accumulates, as well as protection from cold by the heat retained or generated in the manure.

Printed posters of instructions to allotment holders were issued by the Medical Officer of Health, and displayed on all the allotments by the courtesy of the City Surveyor, Mr. Luke. These required the immediate digging in of all fresh manure, or a covering of at least 12 ins. of rammed earth on all sides of the manure.

A large number of allotments were visited by the Special Inspectors in July when it was ascertained that little or no attempt had been made to comply with the requirements. The manure was found, almost without exception, to be propagating flies, some to an enormous extent. As the bye-laws with respect to the removal of manure from stables do not apply to allotments, recourse was

led to the powers of the Public Health Act, 1875. In such cases notices of nuisance were served to remove or bury the manure and were complied with, but the time which necessarily elapsed was long enough to liberate thousands of flies from each pile of manure. Later in the season these conditions were largely remedied.

The object of the removal of manure from stables is thus defeated, and, whilst the utilisation of manure on allotments is perfectly right and necessary, it must be carried on without detriment to the neighbourhood. The necessity for rigorous action is proved by the tardiness to comply with, or the utter disregard of, the published instructions which prevailed amongst the plot-holders. Failure to comply with such instructions should be penalised by cancellation of the tenancy of a plot. Notice has been put up at the Stretford allotments to this effect. At present no other disciplinary powers exist to deal effectually with this problem other than confiscation of the manure, which would not be a sufficient penalty for this grave default.

On the other hand, whether the allotments are near houses or not, the plot-holders should realise their communal responsibilities in this regard, and endeavour to do their utmost to mitigate the evils arising from the storage of manure on their plots.

An educational campaign was carried on to some degree, but an extension of this work is desirable if the plot-holders are to be made more fully cognisant of the dangers arising from their neglect.

The interested and active co-operation of the plot holders is a very important factor.

Tips.

Unconsumed organic refuse is still being tipped within the City area.

The sites of these tips, owing to the expansion of the City, are now being more and more enclosed by the encroaching dwellings. The nuisances created from the decomposing, fermenting, and burning matter are becoming greater than at any previous time. These were possibly increased by the exceptional weather experienced during the past summer.

It was found that flies were being generated in large numbers on the Harpurhey tip, and, indeed, complaints were made on the subject by the Harpurhey allotment holders.

Railway Sidings.

Several manure contractors in the City are engaged in the removal of manure from the stables to the railway sidings, where it is placed directly into wagons. This manure is badly infested with fly maggots. At the sidings the larvae

escape from the wagons, forcing themselves through the chinks between the floor boards and through the joints between the flap door and the wagon body. These larvae fall to the ground and pass along the surface of the permanent way until a suitable crevice is found, either amongst the clinkers or under the rails or sleepers. Here pupation is completed, the resulting fly emerging when circumstances are favourable.

As railway sidings which are utilised for this purpose are found in all parts of the City, it becomes apparent that they form no inconsiderable portion of the means by which the fly menace is increased by opening up new centres. The escaping larvae should be swept up and burned. But, of course, as it is, the removal of the manure by railway is an advantage to Manchester.

Iron Foundries.

The Special Inspectors, during their observations, ascertained that flies were also being propagated in the manure which is used in the making of cores for hollow castings. Stable manure of certain kinds is obtained in the vicinity of the works. This is stored in some convenient portion of the foundry and utilised, as required, for a binding material for the damp sand cores, and to form a porous matrix for the escape of gases generated during the casting. The core after being formed, is put into a stove for drying and baking.

The manure arrives at the foundry more or less infested with larvae and pupae of the fly, and the life cycle is often completed during storage in the foundry. Thus, although the horse-keeper has complied with the bye-laws relating to the removal of horse manure, the object of the bye-laws is rendered futile.

The difficulties in this regard are very great.

The inspectors ascertained that a difference of opinion exists amongst the foundry men, some claiming that the manure is replaceable. It is certain, however, that for large castings the long-established custom of utilising horse manure for core forming will be difficult to change. Experiments were carried out by submitting the manure to a degree of dry heat sufficient to kill the larvae and pupae immediately on arrival in the foundry. The arrangements in the foundry do not permit of this being readily done without overheating and firing of the manure, and this process was abandoned. Moreover, the manure becomes too dry and brittle to accomplish its purpose. Subsequent spraying with water is insufficient to restore the original properties of the manure.

It would appear that a moist heat (such as current steam), if easily applied, would succeed in rendering the manure innocuous, but the whole of the manure would require to be treated without delay on arrival, and with scrupulous care.

Further investigation into these details is obviously required.

conclusions.

From the foregoing it will be seen that the fly is very difficult to circumvent. Therefore, in order to prevent the liberation of flies within the City, it appears that a regular well-organised system of daily collection from the stable, and removal to some approved place where the manure can be stored without danger to the community, is an urgent matter.

FOOD SHOPS.

During the year, by instruction of the Medical Officer of Health, an attempt was made to overhaul the pork butchers' shops, and places where potted meats or sausages are manufactured, with a view to putting them into proper sanitary conditions, and has been undertaken.

In cases where food was being prepared under conditions liable to lead to contamination of the manufactured articles, specifications, embracing the work required to place the premises in good order, have been served. Much excellent work has been done toward a uniform high standard of sanitary requirement in food-producing premises.

It is very satisfactory to note that proprietors of these establishments, whilst originally demurring at what they considered unnecessary expense involved in carrying out the requirements of the Medical Officer of Health, have, in a number of instances, expressed their entire approval on completion of the work, stating that the improvements were an asset to their business in addition to an improvement in methods and consequent saving of labour with greater efficiency.

LIQUID EGG.

An enquiry into the manufacture of liquid egg has been undertaken during the year, primarily at the instance of Dr. MacFadden, C.B., of the Ministry of Health.

Quite a number of confectioners' drysalters have, during the past few years, commenced to manufacture liquid egg as a substitute for fresh shell eggs used in the confectionery trade. This was a business which developed during the war, when ordinary sources of supply of shell eggs were cut off and the home supply of eggs was found entirely insufficient to meet the needs of confectioners.

China was the one great egg-producing country not engaged in hostilities, and it is from that country that the supplies for the manufacture of liquid egg have been drawn.

Chinese shell eggs do reach these shores, but owing to the shortage shipping and uncertain dates of delivery, other means of transportation, which necessitated preservation, had to be found.

Therefore, several methods of treatment were followed in China :—

The eggs are emptied from the shells and the moisture evaporated, in a similar manner to the drying of milk.

Dried whole egg is of a yellow colour and of crumbly consistency.

It is packed in tins of various weights between 28 lbs. and 1 cwt., which are hermetically sealed. These tins are again packed in stout wooden cases to prevent damage to the sealed tins.

No added preservative of any kind whatever is used in this process.

Complete reliance is placed on the total evaporation of all moisture to prevent decomposition. Great care is observed in the packing to prevent moisture gaining access to the dried whole egg.

In this form it has reached most households throughout Great Britain as dried eggs. It is stocked by grocers, dairymen, etc. Provided there is a quick and ready sale there is no doubt that it forms a valuable addition to our food supply, but from the time the sealed tin is opened and admitted, the process of decomposition commences, so that careful packing, stocking in a dry place, and a quick sale are three essential requisites for this commodity.

Dried whole egg is also used in this country by confectioners' drysalts and sundries men in the manufacture of a liquid egg, which is packed in tins not less than 7 lbs. and sold to confectioners.

Method of Manufacture.—A weighed quantity of dried whole egg is placed in a churn similar to an ordinary milk churn. Water which has in part been boiled is added in a luke-warm condition. Also a preservative in the form of boracic acid is added at the rate of 2 lbs. to 100 lbs. of the mixture.

The churn is closed and set in motion for about one hour until the dried egg is thoroughly dissolved.

On drawing the liquid off it is passed through a fine sieve to extract any undissolved portions. It is then canned and despatched to confectioners, who use the liquid in place of fresh shell eggs.

With the aid of the preservative the liquid will keep for several weeks.

Method Number Two.—In China the shell eggs are broken and the whites separated from the yolk in a manner familiar to the British housewife.

The yolks of the eggs are put into large casks, which, when filled, weigh about 100 lbs. Preservative in the form of boric acid, said to be about 2 lbs. to the 100 lbs. is added. The cask is sealed and is now ready for shipment.

The albumen or white of the egg is dried, as described for the whole dried egg. The dried albumen is packed in hermetically sealed tins enclosed in stout wooden crates. In this form dried albumen will keep for almost any period without deterioration.

No preservative is used in this process. On arrival in this country confectioners' drysalts dissolve the dried albumen in water and add the preserved yolk. Boric acid at the aforementioned rates is also added to the mixture.

This work is usually done in large vats or casks. The mixture is stirred with a wooden paddle for a short time before being sieved and packed in tins.

This method and mixture is the most commonly used.

The casks of liquid egg yolk, if not used in reasonable time, lose by evaporation and leakage through the joints of the cask, leaving crevices by which air and moulds may enter.

Improvements in method of manufacture of liquid eggs.

Considerable improvement of the premises wherein liquid egg is made, and of appliances used in the process, is most desirable :—

1. The floors should be constructed of concrete with ample facilities for frequent swilling. The floors should be kept damp at all times to prevent any dust rising into the atmosphere of the room.
2. The walls should be cemented or constructed of white glazed bricks or tiles, and frequently washed down.
3. The ceilings should be dust proof.
4. Ventilation. Special mechanical means of ventilation should be provided, and all air washed before it is delivered into the room.
5. Block tin tanks similar to those used in dairying, or slate tanks, should be substituted for the wooden ones now in use.
6. An adequate supply of scalding water should be available for cleansing purposes.
7. All water used in the mixture should be passed through high-pressure filters.
8. Scrupulous cleanliness of the premises, personnel, and utensils should be maintained at all times.
9. All liquid eggs should be consumed within seven days of manufacture.

By removing, as far as practicable, all contaminations, and using the commodity whilst fresh, the necessity of adding preservatives in the quantities now used would largely disappear. There would be a considerable saving in the amounts spent in boric acid, and a great gain to the consumers of the confections in which the product is used.

DIRTY DRINKING AND EATING UTENSILS.

PUBLIC HOUSES AND EATING PLACES WHERE GLASSES, POTS, CUPS, FORKS AND SPOONS ARE USED IN COMMON WITHOUT STERILIZATION.

For several years past complaints have been received by the Medical Officer of Health calling attention to the dangers to health by the practices of catering for public refreshments supplying food or drinks, or both, in dirty utensils.

A number of observations have been made confirming the statements made by the complainants. It has been found, over and over again, that many licensees of public houses in this district are in the habit of serving drink to a customer after customer in glasses or pots, without any pretence of cleaning the glass or pot except by dipping them in dirty water and allowing them to drain for a few moments. No doubt this practice is common to districts other than Manchester.

Many of these people state that after the house is closed all the glasses, pots, etc., are cleansed in hot water and soda, and wiped with towels, before being used at the next opening time. Others admit that the glasses are always washed in cold water. This has been confirmed many times, particularly in this the case in summer time, when the ordinary domestic fires are not used. These domestic fires usually produce all the hot water used in most public houses. When the fires are not lit there is no hot water, consequently the condition of the glasses or pots is very unsatisfactory.

The Medical Officer of Health has caused the following notice to be circulated amongst the licence holders of the City.

The attention of persons supplying drinks to a number of customers is called to the grave danger to health involved in the use of drinking vessels which have not been carefully washed each time before use. This neglect exposes the person supplied with drink in an unwashed vessel to the risk of contracting certain diseases, and of becoming the means of conveying them from person to person.

Amongst the diseases liable to be communicated by unwashed drinking vessels are tuberculosis, syphilis, diphtheria, scarlet fever, influenza, and

bronchitis, and amongst those which the consumer is rendered liable to convey, without perhaps, showing any sign of having contracted illness, are pneumonia, diphtheria, cerebro-spinal fever, and poliomyelitis.

The attention of the Licensing Justices has been directed to this important subject.

(Signed) JAMES NIVEN,
Medical Officer of Health.

A number of defaulting licences have been before the Licensing Bench, and severe warning given as to the dangers of their carelessness.

The Licensed Trade Joint Committee have intimated their willingness to co-operate by letter and through a circular to all licence holders.

From the foregoing it must not be understood that every licensee is remiss in this respect. There are a number who pride themselves upon the cleanliness of their premises and utensils, whilst a few form a very striking example of how mean it is possible to conduct the business, even though the condition of their premises may not be all that can be desired from a structural point of view.

On the other hand, this standard of cleanliness, which is absolutely essential for the difficult of attainment owing to the poor hot water arrangements in some establishments, and a complete absence in others.

Publicans, like other people, do not desire to keep a considerable fire burning in their living rooms in summer time merely to provide hot water in the bar for glass washing purposes. Domestic hot water services are not suitable, from a variety of reasons, to provide the very hot water needed for cleansing utensils.

1. The draw-off tap in the bar is usually at the end of a long length of supply pipe, which necessitates a lot of water being drawn before any hot water is obtained.

2. The hot water supply requires to be constant in temperature and quantity, readily obtainable in winter and summer, with the minimum of trouble and expense in fuel and water.

3. The hot water requires to be constantly passing through the washing sinks, otherwise the water in which the utensils are washed becomes very foul.

4. Bearing in mind that every customer is justly entitled to a clean, dry glass, etc., from which he may drink without fear of contamination, it becomes necessary to devise appliances ensuring a small, steady flow of water at a temperature sufficient to sterilise utensils used in common by large or small numbers of people.

With this object in view, and realising that it is futile to call for reform unless you are able to supply a remedy, an appliance has been devised which consists of a small gas-heated appliance from which, it appears, that one solution of the problem has been effected.

In order to do this to the best advantage, and at the least cost, it is necessary to make use of the existing arrangements in public house bars as far as practicable.

Each bar is at present fitted with a metal-covered draining counter, and a sink supplied with water. Also a gas supply is usually close to hand. Therefore it is possible to utilize the existing drainage counter and sink.

At the instance of one of us, a workable appliance has been designed by Messrs Richmond & Co., Warrington, and can be seen in the Gas Show Rooms Manchester Corporation, Deansgate.

On the counter, and close to the sink, can be placed a small gas-heated tank into which a small stream of water is allowed to flow in at one end at the bottom of the tank, and to overflow through the aperture provided at the opposite end and from the top of the tank.

This constant overflow of a small quantity of very hot water is discharged into the sink adjoining. The plug is placed in position in the bottom of the sink to allow it to fill with the water from the previous tank. From the sink the water passes through the overflow and away to the drain. The gas-heated sterilising tank is so arranged as to maintain the water at a temperature between 180 and 200 degrees Fahrenheit. From this it will be observed that the water in the sink is kept very hot from the tank overflow, and that there is a constant stream of water passing through both.

The sterilising tank is provided with a series of wire baskets, which, when loaded, will hold 12 tumblers or a varying number of larger or smaller utensils.

Method of use.—Glasses, etc., when received from customers are first plunged into the sink and allowed to remain until there is a sufficient number to fill a wire basket.

This plunging of the utensil into running hot water cleanses, and at the same time expands the glass to prevent fracture when the basket full of glasses is plunged in the sterilising tank for about 20–30 seconds.

The glasses are placed horizontally in the basket, the bottom of which is inclined so that on removal of the basket from the tank the glasses drain and dry by means of their own heat.

By this means sterile glasses can be guaranteed. No glass cloths are necessary. The installation is small, compact, very durable, with nothing to get out of order. It can be used by the ordinary people engaged in the public business simply by the application of a match and turning on the water supply.

The gas supply is controlled by a thermostat thus checking waste. One great advantage in an appliance of this character, fixed in the position indicated, is that it is possible for the customer to observe whether the glasses, etc., are being properly cleansed.

In fact, visibility is a very important feature, and with advantage could be carried one stage further by inserting a glass front in the bar counter, so that all the operations carried on behind the bar would be within the view of the customer.

REPORT OF THE SANITARY DEPARTMENT.

By MR. H. DALE, SUPERINTENDENT.

In presenting to the Medical Officer of Health the report of the work transacted in the Sanitary Department for the year ending 31st March, 1921, I beg to state that the City, for inspection and other purposes, is divided into 35 Districts, to each of which one Sanitary Inspector has been assigned.

In addition to these there is a Superintendent, one Chief Inspector, one Drainage, four Smoke, one Canal Boats, four Lodging-house, three Adulteration of Food, two Milkshops, ten Factory and Workshops Inspectors (including two Female Inspectors, and two Drain Examiners. There is also a staff of 30 Clerks for clerical and other work.

In the Drainage Department there is also a Chief Inspector, three Clerks, and two Clerks of Works for supervising and measuring up work done by the contractors employed by the department in carrying out private drainage work.

The number of complaints of nuisances of various kinds made during the year was 9,405 :—

2,904 through the Medical Officer of Health's Department.

6,490 by the public.

11 through the Police.

HOUSES LET IN LODGINGS.

Under the powers given by Section 90 of the Public Health Act the bye-laws made thereunder have been enforced.

The number of houses on the register is 2,171. To these 21,248 day visits and 452 night visits have been paid. 256 infringements of the regulations have been reported and dealt with.

DAIRIES, MILKSHOPS, AND COWSHEDS REGULATIONS.

Under the Order, which was made in July, 1879, and the Regulations made thereunder in 1896, 2,261 milkshops and dairies and 78 cowkeepers are now on the register. The number of cows kept is 1,221. The number of visits to dairies, milkshops, and cowsheds was 3,576. Five infringements of the regulations have been reported, and dealt with by the Committee.

The number of ice-cream manufacturers on the Register is 489. The number of visits was 607.

WORKSHOPS, BAKEHOUSES, SHOPS ACTS, AND ORDERS MADE THEREUNDER.

Workshop Acts During the year the Factory and Workshop Act of 1901 has received the careful attention of the Male and Female Inspectors specially appointed for the duties, the Female Inspectors devoting a large portion of their time to visiting the 2,131 houses of outworkers in the City.

Means of Escape in case of Fire Provision for means of escape in case of fire in factories and workshops has also received attention, and all known cases of danger have been dealt with.

Periodical changes will, of course, take place from time to time in various ways which will bring buildings within the meaning of the Act, and necessitate the constant supervision of the Inspectors and action on the part of the Authorities.

Bakehouses The number of bakehouses in the City is 618; of these, 47 are situated in basement premises, and special attention has been given to them.

Shops Act The Shops Act, which came into force on the 1st May, 1912, has received attention, registers of all shops having been prepared. Orders of Exemption from compulsory closing have been made in 33 trades. In 6 trades Orders have been made fixing the day for the weekly half-holiday, and in 3 trades Orders have been made fixing the closing hour for the several days of the week.

Outworkers Many visits have been paid to houses in various parts of the City in which outwork is carried on, as will be seen on reference to the following tabular statement, but constant visitation is necessary to maintain the standard of cleanliness which is to be desired, especially in houses in which shirt-making, handkerchief-hemming, brace-making, and umbrella-covering, etc., is done.

The people, as a rule, appear willing to carry out any suggestion made by the Inspectors to keep their houses clean; but at the same time it is almost impossible for small houses, sometimes containing large families, to be kept in such a satisfactory condition as workshops.

The work done under the above Acts is shown in the following tables:—

Number of District.	SHOPS				WORKSHOPS					BAKEHOUSES					OUT- WORKERS		Total Number of Inspections		
	Number visited	Number of infrangements reported to Committee		Employment of Children Act	Number of cases in which Magisterial proceedings have been taken	Number cautioned by Committee	Number of cases in which Magisterial proceedings have been taken	Number of Infringements reported to the Committee	Number of cases in which Magisterial proceedings have been taken	Means of escape in case of fire not being maintained in accordance with the requirements of the Act	Number visited	Number of premises in which Sanitary defects were found	Number of cases reported to the Factory Inspector	Number of Infringements reported to the Committee	Number of cases in which Magisterial proceedings have been taken	Number of visits to houses where outworkers are employed		Number of houses found dirty	
		Shops Act	Number of infrangements reported to Committee																
1	William Moss.....	1106	2	..	..	..	..	..	..	7	13	112	27	2	..	..	..	2869	
2	Richard Tolson	1230	5	..	..	..	..	..	..	5	30	258	23	1	..	..	..	..	4020
3	Alfred Campbell.....	1275	..	..	..	..	..	..	..	5	13	125	24	7	1	1	..	..	2243
4	Thomas Nicholson	1774	4	2	..	..	..	..	..	10	50	255	33	1	1	..	..	..	4169
5	Thomas A. Linfoot	3187	9	..	..	..	..	..	..	1	7	400	25	1	..	..	..	..	5249
6	George Vernon	1833	7	3	..	..	..	1	8	21	384	58	4	4	..	..	..	..	4164
7	Ernest Dooley	1675	24	11	..	..	..	..	4	9	606	103	2	2	..	..	..	..	4721
8	Francis J. Rowe.....	337	5	5	..	..	..	..	12	22	85	7	..	..	..	..	..	..	2523
...	Mrs. Rosa G. Clift.....	650	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5598
...	Mrs Ethel Darbyshire....	479	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6677
	TOTALS	13546	56	23	1269	525	3	3	52	165	2225	300	18	2	1	9981	54	..	42623

Totals on Registers—Shops, 23,685; Workshops, 3,583; Bakehouses, 618.

SHOWING THE NUMBER AND CLASSIFICATION OF PERSONS EMPLOYED AS
OUTWORKERS BY FIRMS WITHIN THE CITY, AND THE NUMBER OF
SUCH FIRMS.

TRADES	No. of Employers	No of Outworkers or Contractors employed
Makers of Wearing Apparel	394	2064
Button Carding	1	8
Cabinet Makers and Upholsterers	3	6
Artificial Flower Makers	2	3
Dolls and Toys	1	15
Fent Sorters.. .. .	2	4
Handkerchief Hemmers	13	25
Lace, Lace Curtains, and Nets	1	8
Opticians	1	1
Paper Bags and Box Makers	2	3
Quilt, Cushion, &c., Makers	6	60
Umbrella Trimmers	18	177
Window Blinds	1	1
Chamois Leather Mop Makers	1	2
Shopping Bag Makers	5	142
Totals	451	*2459

* 2,131 of these are in the City, the remainder are in the districts of other Local Authorities
to whom lists showing the names and addresses have been sent.

SHOWING THE PROCEEDINGS TAKEN UNDER THE PROVISIONS OF THE ADULTERATION OF FOOD AND DRUGS AND THE MARGARINE ACTS.

ARTICLE	Number of Samples Obtained	Number Adulterated	Number not Adulterated	Number Summoned before Magistrates	Number Fined	Number Ordered to Pay Costs only	Number Dismissed or Withdrawn	Number Cautioned by Committee	Amount of Fines Imposed			Amount of Costs Ordered to be Paid		
									£	s.	d.	£	s.	d.
Wheat and Corn Flour	41	...	41	...	...	...	...	...	...	...	...	...	...	...
...	20	...	20	...	...	...	...	...	...	...	...	...	...	...
... Powder	34	...	34	...	...	...	...	...	...	...	...	...	...	...
... Dripping	11	...	11	...	...	...	...	...	...	...	...	...	...	...
...	19	...	19	...	...	...	...	...	...	...	...	...	...	...
...	21	...	21	...	...	...	...	...	...	...	...	...	...	...
...	33	...	33	...	...	...	...	...	...	...	...	...	...	...
... Camphorated Oil	22	3	19	1	...	1	...	1	...	...	...	1	10	0
... Oil	17	...	17	...	...	...	...	...	...	...	...	...	...	...
...	32	...	32	...	...	...	...	...	...	...	...	...	...	...
...	20	...	20	...	...	...	...	...	...	...	...	...	...	...
... Liver Oil	18	...	18	...	...	...	...	...	...	...	...	...	...	...
...	36	...	36	...	...	...	...	...	...	...	...	...	...	...
... Stationery & Mince-meat	115	...	115	...	...	...	...	...	...	...	...	...	...	...
... and Preserved Cream	32	6	26	...	...	...	...	3	...	...	...	...	...	...
...	342	13	329	4	...	4	...	2	...	...	...	6	4	0
... (tinned and potted)	14	...	14	...	...	...	...	...	...	...	...	...	...	...
...	63	1	62	...	...	...	...	...	...	...	...	...	...	...
...	16	...	16	...	...	...	...	...	...	...	...	...	...	...
... Soup and Sauces	10	...	10	...	...	...	...	...	...	...	...	...	...	...
...	40	...	40	...	...	...	...	...	...	...	...	...	...	...
... Wine	22	...	22	...	...	...	...	...	...	...	...	...	...	...
... (tinned and prepared)	72	...	72	...	...	...	...	...	...	...	...	...	...	...
...	951	82	869	81	43	19	19	1	116	10	0	89	7	6
... (evaporated)	21	...	21	...	...	...	...	...	...	...	...	...	...	...
... Mineral Waters, Cordials, &c.	29	2	27	...	...	...	...	...	...	...	...	...	...	...
... Card	9	...	9	...	...	...	...	...	...	...	...	...	...	...
... Seal	15	...	15	...	...	...	...	...	...	...	...	...	...	...
... Oil	15	...	15	...	...	...	...	...	...	...	...	...	...	...
... Barley	4	...	4	...	...	...	...	...	...	...	...	...	...	...
... or	23	...	23	...	...	...	...	...	...	...	...	...	...	...
... es	9	...	9	...	...	...	...	...	...	...	...	...	...	...
... Tapioca, &c.	34	...	34	...	...	...	...	...	...	...	...	...	...	...
... ps	9	...	9	...	...	...	...	...	...	...	...	...	...	...
... s	2	...	2	...	...	...	...	...	...	...	...	...	...	...
... s	103	...	103	...	...	...	...	...	...	...	...	...	...	...
...	59	3	56	...	...	...	...	...	...	...	...	...	...	...
...	10	...	10	...	...	...	...	...	...	...	...	...	...	...
... le and Golden Syrup	21	...	21	...	...	...	...	...	...	...	...	...	...	...
... gar	...	...	...	...	...	...	...	...	...	...	...	...	...	...
... s	4	...	4	...	...	...	...	...	...	...	...	...	...	...
Totals	2448	*110	2338	86	43	24	19	7	116	10	0	97	1	6

In seventeen of these cases no Magisterial proceedings were taken; three samples of Cream, one of Camphorated Oil, one of Flour, seven of Drugs, two of Mineral Waters, and three of Sugar having been taken informally.

In addition to the above, 221 samples of Milk have been procured from Farmers' cans by the Sampling Officers for bacteriological examination under the Milk Clauses of the Manchester General Powers Acts.

Fertilizers and Feeding Stuffs Act, 1906.

Fourteen samples were procured under this Act, which were submitted to Mr. H. Heap, Analyst, all of which were reported on as complying with the Act.

SMOKE NUISANCES.

For the abatement of smoke nuisances the four Inspectors appointed specially for this work have taken 372 timed observations of half-an-hour each, with the result that 65 notices for the abatement of nuisances have been served. Proceedings before the Magistrates were ordered in 88 cases out of 151 offences reported. The number of offenders cautioned or excused was 63.

The 88 were summoned before the Justices, and in 60 instances fines were imposed amounting to £165 os. od., while 7 were ordered to pay costs only (£2 os. od.).

Twelve orders of abatement were granted and served, and the costs paid in connection therewith amounted to £4 16s. od., and 9 cases were dismissed or withdrawn.

Much attention during the past year has been given to the nuisance caused by the emission of black smoke, not only from the furnaces connected with boilers in mills, warehouses, and other works, but also from chemical and other industries, and the efforts made have already resulted in a considerable reduction of the nuisance.

Chimneys of firms in adjoining districts have also been observed in regard to smoke nuisances, and communications sent to the Authorities concerned.

CANAL BOATS ACTS.

The number of canal boats on the register is 451.

The number of inspections made was 1,948.

Caution notices were sent to the owners or masters of 28 boats.

OFFENSIVE TRADES.

The number of offensive trades on the register is 858. These have been placed under close supervision, and periodical visits paid.

UNHEALTHY DWELLINGS.

During the year 4 houses were certified as unfit for human habitation, and ordered to be closed by the Public Health Committee.

MILK AND CREAM REGULATIONS, 1912 AND 1917.

The following is a summary of the action taken under these regulations in 1921 :—

1. *Milk and Cream not sold as Preserved Cream.*

	(a) Number of samples examined for the presence of a preservative	(b) Number in which a preservative was reported to be present
Milk	1,028	3
Cream	None	None

Nature of preservative in each case by column (b) and action taken under the Regulations in regard to it.

No. of Sample	Formal or Informal	Result of Analysis	Action taken
500	Formal	1 part per 100,000 parts of added Formic Aldhyde	Cautioned by Com- mittee
505	Do.	Do.	Do.
1,083B	Do.	Do.	Do.

2. *Cream sold as Preserved Cream.*

(A) Instances in which samples have been submitted for analysis to ascertain if the statements on the labels as to preservatives were correct :—

(1) Correct statements made 42

(2) Statements incorrect 1

Total 43

(B) Determination made of milk fat in cream sold as preserved cream :—

(1) Above 35 per cent. 43

(2) Below 35 per cent. —

Total 43

(C) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the Regulations have not been observed. (See Section 4.)

(D) Particulars of each case in which the Regulations have not been complied with and action taken. (See Section 4.)

3. *Thickening Substances.*—Any evidence of their addition to cream or to preserved cream. Action taken where found.—None.

4. *Other Observations*, if any.

Answers to Question 2 (c and d) *

,, Questions 3 and 4 None

* One sample, No. 1472C, on analysis, was found to contain 0·80 per cent. of boric acid and 48·62 per cent. of fat. The person concerned was cautioned by the Committee and ordered to pay costs.

MILK (MOTHERS AND CHILDREN) ORDER, 1918.

A very full statement was given at page 71, *et seq.*, of the Annual Report for 1918 on the methods adopted in administering this Order.

A statement of the actual working of the Order will be found inserted on page 176.

NUMBER OF NOTICES ISSUED FOR ABATEMENT OF NUISANCES UNDER THE VARIOUS LOCAL ACTS AND BYE-LAWS, 1921.

Act of Parliament	Work required to be done	No. of Notices Issued
Manchester Police Act, 1844 (Section 86)	Cleanse and limewash houses	167
„ „ „	„ „ (privies)	14
Manchester Corporation Waterworks and Improvement Act, 1867 (Section 42) and 1869 (Section 34)	Repairs to privies, etc. ...	368
Manchester Corporation Waterworks and Improvement Act, 1869 (Section 29)	Renew defective downspouts and gutters	*1,104
Manchester Corporation Waterworks and Improvement Act, 1869 (Section 31)	Discontinue keeping swine ..	4
Manchester New Streets Act, 1853 (Section 41)	Repair or flag surfaces of yards and passages	*1,475
Manchester Corporation Act, 1891 (Section 38)		
Manchester New Streets Act, 1853 (Section 45)	Discontinue occupying cellars as dwelling-rooms	—
Manchester Improvement Act, 1845 (Section 46)	Open, cleanse, and repair drains	1,836
Manchester Bye-laws relating to houses let in lodgings	Alterations and general repairs	239
Not issued under any Act of Parliament...	Preliminary notice for general repairs	*5,014

NOTE.—The majority of the notices issued have been complied with, with the exception of the groups marked with an asterisk, and in these cases, owing to the cost and shortage of material, a considerable number have been allowed to stand over, but all the urgent cases have been insisted upon. Many of the preliminary notices have been complied with, and of the remaining number the worst cases have been referred to the Housing Committee to be dealt with under the Housing and Town Planning Act, 1919.

Number of Lodging-Houses on the Register	Number of Visits		Total Number of Visits	Number of Offences Reported to Committee	Number ordered to be Summoned	Number Cautioned, Excused, or Reported to other Committees	Minor Offences Cautioned by Deputy-Superintendent
	Day	Night					
2,212	21,211	289	21,500	189	148	41	49

TABLE SHOWING THE NUMBER OF CASES IN WHICH MAGISTERIAL PROCEEDINGS WERE TAKEN AND THE RESULT OF SAME.

Description of Offence	Number of Summonses taken Out	Number of Persons Fined with Costs	Number of Persons Ordered to Pay Costs only	Number Adjudged	Number Excused, Dismissed, or Withdrawn	Amount of Fines Imposed	Amount of Costs Ordered to be Paid
						£ s. d.	£ s. d.
Lodging-houses in a dirty state	89	36	26	7	20	23 15 6	6 10 0
Lodging-houses overcrowded	20	7	2	3	8	2 3 0	0 10 0
Mixing of sexes	10	4	2	1	3	1 2 6	0 10 0
Using kitchen and unregistered room as sleeping rooms	9	6	...	1	2	2 2 6	...
Keeping animals so as to render premises unwholesome	4	2	1	...	1	1 5 0	0 5 0
Neglecting to furnish particulars of lodging-houses	7	1	3	...	3	1 0 0	0 15 0
Refusing admission to Inspector	4	1	1	...	2	1 0 0	0 5 0
Assaulting Inspector whilst in the execution of his duty	1	1	...	...	...	2 2 0	0 5 0
Sleeping room not effectually screened	4	1	...	...	4	...	...
Totals	148	58	35	12	43	34 10 6	9 0 0

DAIRIES, MILKSHOPS AND COWSHEDS ORDERS.

TABLE SHOWING THE NUMBER OF DAIRIES, MILKSHOPS, AND COWSHEDS, AND THE NUMBER OF COWS KEPT IN THE CITY ; THE NUMBER OF VISITS TO SAME, AND THE NUMBER OF CASES REPORTED FOR OFFENCES AGAINST THE REGULATIONS.

Number of Dairies and Milkshops on the Register	Number of Cow-keepers on the Register	Number of Cows Kept	Number of Visits	Number of cases reported for Offences against the Regulations	Number Summoned before the Magistrates	Number Cautioned by Committee
2,238	74	1,190	4,690	1	...	1

ICE CREAM

(Proceedings taken under Manchester Corporation (General Powers) Act, 1899)

TABLE SHOWING THE NUMBER OF ICE CREAM MANUFACTURERS IN THE CITY THE NUMBER OF VISITS MADE, AND THE NUMBER REPORTED FOR OFFENCES AGAINST THE ACT (SECTION 18).

Number of Ice Cream Manufacturers on the Register	Number of Visits	Number of Cases Reported for Offences	Number Summoned before the Magistrates	Result of Magisterial proceedings to Pay Costs
494	683	...	...	...

BAKEHOUSES AND OTHER PREMISES IN WHICH FOOD IS PREPARED.

The total number of visits made by Inspectors to bakehouses during the year was 3,121, and their routine work is referred to on page 195.

Visits were made in connection with 34 applications for the use of premises as bakehouses, with the result that 19 were considered unsuitable and 15 were approved on certain conditions being fulfilled.

The following table relates to bakehouses, restaurant kitchens, and foodshops in which Mr. Irvine was requested by the Medical Officer of Health to prepare specifications of the work required in order to make the premises fit for the purpose.

Specifications for bakehouses prepared prior to 1921 in which work was completed during 1921 or still in progress on December 31st, 1921 :—

Number of specifications prepared	3
„ in progress	—
„ discontinued as a bakehouse	—
„ completed	3

Specifications for bakehouse prepared in 1921 :—

Number of specifications prepared	8
„ completed	2
„ discontinued as a bakehouse	—
„ in progress	3

Specifications for restaurants prepared prior to 1921 in which work was completed during 1921 or was still in progress on December 31st, 1921 :—

Number of specifications prepared	1
„ in progress	—
„ discontinued	—
„ completed	—

Specifications for restaurants prepared in 1921 :—

Number of specifications prepared	1
„ completed	2

Specifications for other food-preparing premises prepared prior to 1921 in which work was completed during 1921 or was still in progress on December 31st, 1921 :—

Number of specifications prepared	8
„ in progress	1
„ complete	2
„ discontinued	4

Specifications for other food-preparing premises prepared in 1921 :—

Number of specifications prepared	31
„ in progress	16
„ nothing done	10
„ discontinued	1
„ complete	4

TABLE A, 1921.—WORK OF SANITARY DEPARTMENT FOR THE YEAR.

TOWNSHIPS																						
	Ancoats	Central	St. George's	Cheetham	Crumpsall	Blackley	Harpurhey	Moston	Newton	Bradford	Beswick	Clayton	Ardwick	Openshaw	Gorton (West)	Rusholme and Kirkmanshulme	Chorlton-upon-Medlock	Hulme	Moss Side	Withington	Levenshulme	Gorton
Complaints to Sanitary Superintendent	1065	881	974	767	210	169	323	304	625	650	85	392	834	687	384	1051	775	2047	487	202	202	717
Dwelling-houses	4015	3320	4785	2748	790	635	1233	1695	4424	744	296	2140	4087	2269	1871	3074	5492	11014	1867	1151	1943	3744
Newly-infected Dwelling-houses	401	195	503	468	132	209	237	410	587	350	213	212	457	451	368	588	428	918	371	309	532	553
Cellars	15	...	234	1	...	...	...	...	...	...	...	...	...	4	...	23	...	294	...	...	...	4
Schools	4	6	20	3	...	2	5	...	4	...	5	1	13	7	7	11	13	26	2	4	4	5
Factories and Workshops	8	1	9	4	...	2	1	4	141	10	...	...	...	4	5	15	...	50	1	10	23	...
Lodging-houses	2170	4422	4350	1513	2	35	7	...	42	187	170	22	740	...	60	150	4575	2792	242	4	14	3
Offensive Trades	8	57	76	...	...	...	...	1	16	3	...	104	9	...	4	1	52	13	2	2	1	20
Dairies and Milkshops	286	698	412	213	29	91	60	150	190	49	51	21	359	113	52	147	597	433	122	147	152	218
Ice Cream Manufactories	439	2	76	14	...	...	10	14	18	6	2	1	21	9	19	1	19	18	...	...	2	12
Bakehouses	177	119	140	290	32	64	104	83	174	94	51	54	134	193	98	128	233	212	168	183	103	287
Canal Boats	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Slaughter-houses	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tips for Refuse	...	...	2	17	5	3	2	8	10	...	...	3	286	...	...	40	...	...	1	17	39	6
Miscellaneous Inspections	902	2656	717	334	196	115	152	510	409	701	589	8	1202	425	103	83	1021	697	882	1743	213	952
Stables, &c.	833	2351	898	429	5	94	102	273	352	75	109	43	799	282	271	682	709	206	60	24	421	676
Factories and Workshops by Shop Hours, &c., Inspectors	1139	5709	1668	3086	65	147	234	129	382	191	121	142	857	318	437	562	1599	1194	332	265	100	352
Shops by Shop Hours, &c., Inspectors	814	1839	870	1653	115	250	452	397	809	427	320	231	804	716	514	432	795	747	484	199	688	289
Infected Rooms Disinfected	2577	695	1846	1083	555	390	444	982	1312	1164	974	537	1285	1075	1096	1330	1223	3112	847	1098	593	1235
Infected Dwellings Re-inspected	3332	1243	2487	1199	512	679	792	1544	1629	951	456	222	1237	1471	1297	1272	1452	2512	1078	1317	725	1822
Drains Tested by Water	18	126	51	55	1	5	12	15	29	29	21	8	34	5	20	87	72	87	20	127	24	16
Smoke { Observations made	18	44	2	10	3	9	8	2	14	8	...	...	15	10	1	8	13	24	2	2	1	3
Abatement { Proceedings before Magistrates	...	7	1	1	1	1	2	1	...	...	1	13	1	1	2	1	...	5	1	...	1	...
Food Adul- { Samples Collected for Analysis	79	576	62	163	24	26	38	32	48	32	28	13	60	85	79	155	334	229	217	213	101	81
teration { Proceedings before Magistrates	5	18	...	19	...	...	...	...	...	1	1	...	...	1	1	3	2	8	2	7	4	...
Ashtips reported to Cleansing Department for emptying	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	2	...	...	...	...
Receptacles reported to Cleansing Department for emptying	...	2	1	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
Notices issued for Abatement of Nuisances	1286	934	1535	1685	1130	227	372	601	915	734	353	335	954	535	588	1190	1401	2017	360	509	523	892
Letters written for Abatement of Nuisances	31	88	50	72	1	2	2	7	10	11	4	15	26	8	3	10	57	45	13	4	2	20
Reports made to Medical Officer of Health	17	73	96	1	57	...	4	13	17	...	...	...	89	28	...	11	95	36	1	231	70	31
Legal proceedings taken	10	67	18	53	3	1	1	3	17	1	4	7	27	14	81	6	50	42	7	3	4	13
TOTALS	13,831	63,937	8,892	8,892	575	142	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE B.

Annual Report of the Medical Officer of Health for the year 1921, for the County Borough of Manchester, on the administration of the Factory and Workshop Act, 1901, in connection with

FACTORIES, WORKSHOPS, WORKPLACES, AND HOMEWORK.

I.—INSPECTION OF FACTORIES, WORKSHOPS, AND WORKPLACES.

*including Inspections made by Sanitary Inspectors or Inspectors of Nuisances**

Premises	Number of		
	Inspections	Written Notices	Prosecutions
Factories (including Factory Laundries)... ..	18829	118	4
Workshops (including Workshop Laundries)... ..			
Workplaces (other than Outworkers' premises included in Part 3 of this Report)			
Total	18829	118	4

2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS, AND WORKPLACES.

Particulars	Number of Defects			No. of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness	724	716	...	...
Want of ventilation	14	12	...	...
Overcrowding	7	7	...	...
Want of drainage of floors	1	1	...	...
Other nuisances *	104	97	...	...
Sanitary accommodation—				
Insufficient	30	3	...	2
Unsuitable or defective... ..	173	30	...	...
Not separate for sexes	3	1	...	...
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bakehouse (S. 101) ... ..	...	...	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	282	279	...	...
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report)	2	1	1	...
Means of escape in case of fire (insufficient)	26	5	...	2
Means of escape in case of fire (defective)	148	142	...	...
Total	1512	1294	1	4

* Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

NATURE OF WORK	OUTWORKERS' LISTS, SECTION 107.						OUTWORK IN UNWHOLESOME PREMISES, SECTION 108				OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110				
	Lists received from Employers			Sending once in the year			Prosecutions		Instances	Notices served	Prosecutions	Instances	Order made (S. 110)	Prosecutions (Sections 109, 110)	
	Sending twice in the year			Sending once in the year			Failing to keep inspection lists or permit Occupiers as to keep- ing or sending lists	Failing to send lists							
	Lists	Con- tractors	Work- men	Lists	Con- tractors	Work- men									
Wearing Apparel—															
(1) Making, etc.	700	535	2002	28	1	97									
(2) Cleaning and washing	..	..	..	..	..	..			
Household linen	..	..	..	..	..	..			
Lace, lace curtains, and nets	2	..	12	..	..	..						
Curtains and furniture hangings	..	..	..	..	..	..			
Furniture and upholstery	6	4	7	..	..	..						
Electro-plate	..	..	..	..	..	..			
File-making	..	..	..	..	..	..			
Brass and brass articles	..	..	..	..	..	..			
Furriers	..	..	..	..	..	..			
Cables and chains	..	..	..	..	..	..			
Anchor and grapnels	..	..	..	..	..	..			
Shopping Bag Makers	..	..	..	..	..	..			
Cotton bags	10	..	168	..	..	..						
Umbrellas, etc.	2	..	0	..	..	..						
Artificial flowers	34	1	201	..	..	..						
Nets, other than wire nets	2	..	6	..	..	..						
Fents	..	..	..	..	..	..			
Quilts	4	..	2	..	..	..						
Gold beaters	10	..	130	2	..	2									
Paper, etc., boxes, paper bags	..	..	..	..	..	..			
Window blinds	4	..	4	..	..	..						
Sponges	2	..	2	1	..	16									
Hair pads	..	..	..	..	..	..			
Carding, etc., of buttons, etc.	2	..	11	1	..	0									
Opticians	2	2	..	..	..	..					
Handkerchief hemmers	20	2	18	3	..	3									
Washleathers	2	..	2	..	..	..						

4.—REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year		Number
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Workshops	3550
	Bakehouses	598
	Total number of Workshops on Register ...	4148

5.—OTHER MATTERS.

Class	Number
Factories notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	150
Action taken under Sec. 5 of the Factory and Workshop Act in matters referred by H. M. Inspector as remediable under the Public Health Acts :—	
Notified by H.M. Inspector	139
Reports (of action taken) sent to H.M. Inspector	139
Other	444
Underground Bakehouses (S. 101) :—	
In use at the end of the year	26
Not in use at the end of the year	21
Demolished . . . . .	...

NOTE.—The Factory and Workshop Act, 1901 (S. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the Annual Report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces, or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Home Work Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

I append a brief Statement on the Memorandum of the Home Office upon the Structural requirements of the Factory and Workshop Acts, as to

1. Means of escape from fire :

Bye-laws have been in operation since 1908. These have been amended, and in their amended form were approved by the Local Government Board in 1913.

A large amount of work has been done under these bye-laws, and practically the whole of the factories and workshops have been dealt with.

2. Sanitary accommodation :

Although the work has not been carried out under the Sanitary Accommodation Order, 1903, the conditions stated in the Memorandum have been enforced, and all the factories and workshops have been dealt with, although changes are constantly occurring.

CLOSET ACCOMMODATION.

The following table shows the manner in which the conversion was effected from pails and middens in the City to water-closets. This conversion was accompanied by the necessary alterations in house drains, passage drains, paving of passages, and in the houses themselves. These alterations cannot be exhibited in tabular form, at all events so far as drainage and paving are concerned.

RETURN OF PAIL-CLOSETS AND MIDDEN-PRIVIES ALTERED TO WATER-CLOSETS.

	Number of Pail-Closets altered to Water-Closets	Number of Midden-Privies altered to Water-Closets	Number of Water-Closets altered to Water-Closets
From April 1st, 1891, to March 31st, 1892	16	39	—
" " 1892, " 1893	98	100	—
" " 1893, " 1894	138	141	—
" " 1894, " 1895	179	89	—
" " 1895, " 1896	185	119	—
" " 1896, " 1897	197	284	—
" " 1897, " 1898	179	405	—
" " 1898, " 1899	136	960	—
" " 1899, " 1900	249	897	—
" " 1900, " 1901	180	1,327	—
" " 1901, " 1902	385	999	—
" " 1902, " 1903	976	1,282	—
" " 1903, " 1904	1,899	1,379	—
" " 1904, " 1905	2,222	1,691	—
" " 1905, " 1906	3,297	*2,600	—
" " 1906, " 1907	3,746	3,662	—
" " 1907, " 1908	1,296	918	—
" " 1908, " 1909	10,081	2,844	—
" " 1909, " 1910	11,296	1,378	45
" " 1910, " 1911	8,552	1,204	217
" " 1911, " 1912	6,970	*3,180	121
" " 1912, " 1913	4,214	533	153
" " 1913, " 1914	1,420	78	14
" " 1914, " 1915	428	61	3
" " 1915, " 1916	155	14	—
" " 1916, " 1917	29	6	—
" " 1917, " 1918	3	—	—
" " 1918, " 1919	76	13	—
" " 1919, " 1920	1	—	—
" " 1920, " 1921	2	—	—
" " 1921, " 1922	14	—	—
Total (85,375)....	58,619	26,203	553

* Extension of City Boundaries.

HOUSING PARTICULARS FOR THE CITY OF MANCHESTER.

The figures are summarised below.

The number of houses certified to, and dealt with by, the Housing Subcommittee from February, 1885, to December 31st, 1921 :—

	Number Certified and ordered to be Closed	Number of Houses added together or to other Houses	Number Demolished	Number Repaired and Reopened	Number Closed	Number not Closed	Number which stand Adjourned
Totals.. ..	27351	3411	6766	13420	1347	2296	111

The extent to which these operations have been reduced is seen from the corresponding figures relating to 1921 :—

Totals.. ..	34	..	..	..	2	10	22

The number of conversions from pail-closets and midden privies to water-closets is given herewith :—

From April 1st, 1903, to March 31st, 1921 75,248

From April 1st, 1920, to March 31st, 1921 2

The numbers still requiring to be replaced are—middens, 35 ; pail-closets, 324. The number of water-closets in Manchester is estimated (at December 31st, 1921) to be 222,424, of which 174,988 are in houses, and 47,436 are in warehouses, workshops, etc.

THE FOLLOWING TABLE SHOWS THE RESULTS OF INSPECTION OF HOUSES REPORTED TO THE HOUSING SUB-COMMITTEE AS UNFIT FOR HUMAN HABITATION DURING THE YEAR 1921.

Number of Dwelling-houses inspected for all purposes	72,829
„ considered by the District Inspector of Nuisances unfit for human habitation (houses certified)	34
„ of representations made by the Sanitary Superintendent under a Local Act	34
„ of Closing Orders made	16
„ of Dwelling-houses the consideration of which stand adjourned	18
„ put in a fit state for human habitation after Closing Order had been made .. .. .	..

General character of defects stated to exist :—

Ventilation defective	10
Closet accommodation defective	10
External disrepair	32
Internal disrepair	32
Drainage defective	1
Dampness	18
Water supply defective	—
Dirty—always immediately cleansed	—
Arrangement for deposit of refuse defective	1
Yards require paving	2

The number of new houses certified between November 1st, 1920, and October 31st, 1921, was 165*; during the years 1919–1920 it was 79, as compared with 8 in 1918–1919, 11 in 1917–1918, 19 in 1916–1917, 119 in 1915–1916, 410 in 1914–1915, 748 in 1914, 997 in 1913, and 1,072 in 1912.

In neighbouring areas 214 new houses were certified during 1920 against 29 in 1919, 0 in 1918, 8 in 1917, 52 in 1916, whilst in 1915 the number was 238.

The figures for 1921 were—Salford 130, Stretford 317, Eccles 117, and Droylsden 28.

* This does not include new houses under the Municipal Housing Schemes. Including these the total number erected during 1921 was 787.

HOUSING AND HOUSING REGULATIONS.

The policy which, in the main, has been pursued in Manchester during nearly 30 years has been to abolish back-to-back houses, altering such as were capable of alteration by cutting out houses or parts of houses, providing through ventilation, providing yards, water-closets, and ashbins, at the same time reconstructing the drains and forming good surfaces. Many schemes also deal with the removal of obstructive dwellings, while in a few cases the alteration were somewhat bolder. Concurrently with these operations new houses were being built, with improved conditions as regards light and ventilation. There was, thus, a constant process of demolition in the centre, and a steady pressure of population outwards. It was shown that this policy did not result in diminution of house-room, but the contrary; at the same time a few rehousing schemes were provided.

As will be seen from the figures given on the front page of the statistical portion, the figures do not show any increase of crowding since the Census 1911. But, on the other hand, the condemnation, pulling down, and alteration of houses has been at a stand-still, and the number of houses, which, on anything approaching the old standard of housing, would have been condemned, has greatly increased.

The number of houses recently erected does not nearly meet the needs of the city to-day. Also, open spaces are greatly wanted, more especially in Hulme.

The number of houses inspected under the Housing Regulations, 1910, was 2,972, and elaborate tables have been prepared by my Special Inspectors, showing the mode of occupation of these. It appears that in these houses the average number of persons per tenement was 4·6, which is higher than the figure given by the Census for all houses, viz. : 4·5.

The number of tenements having over 2 persons per room was 192, and the average number of persons per room in these 192 was 2·7.

It has been determined not to proceed with the three areas represented by the map in Hulme, West Gorton, and Deansgate, except, perhaps, with a small portion of the Hulme area.

As this was the principal scheme, and was intended to meet several needs, including a lying-in hospital and provision for lying-in women suffering from venereal disease, and still more urgent, the provision of a large open space, from my point of view, the chief objects of the proposal will not be affected. The principal reason for this course being taken was, no doubt, shortage of money. It was also believed, I understand, that the standard of unfitness for habitation was too severe. I can only say that I, personally, visited and inspected every house in the three areas.

In the Annual Report for 1920 will be found a statement of the Housing Schemes now in progress, and a statement of the uses to which house-to-house visitation is put.

Comparable tables in reference to the houses inspected under the Housing Regulations have been prepared by my Special Inspectors, of which I select the following three.

TABLE 2.

HOUSING AND TOWN PLANNING ACTS.

GENERAL CHARACTER OF THE HOUSES INSPECTED IN EACH DISTRICT DURING THE PERIOD FROM JANUARY 1ST, 1921, TO DECEMBER 31ST, 1921.

DISTRICT	Lack of Free Ventilation	Defective Light	Defective Drainage	Defective Paving	Want of Cleanliness	Dampness		Closets			Ashplaces		Defects		Overcrowding		General Summary of District
						From Ground	From Roof	W.C.'s	Pails	Privies	Bins	Boxes	Remediable	Irremediable	Over 2 persons per Room	Over 2½ persons per Bedroom	
Central	68	71	12	55	50	29	26	289	3	..	262	18	182	78	1	35	...
Cheetham	55	157	53	425	155	1,171	1,331	1,982	1	..	1,917	34	1,537	373	6	173	..
St. George's	154	51	21	437	186	170	48	1,004	11	..	878	99	740	273	14	183	..
Ascoats	379	421	18	277	313	703	325	1,901	19	..	1,870	31	709	1,039	60	418	..
Halme	1,062	697	36	1,501	421	1,279	877	3,190	7	..	3,128	51	2,014	1,177	32	354	..
Crumpsall .. .. .	..	1	11	223	1	20	24	514	..	..	423	80	305	11	..	6	..
Harpurhey and Blackley ..	7	8	8	327	7	199	71	1,078	2	..	971	94	926	117	13	131	..
New Moston	7	4	2	207	4	49	25	436	..	..	428	8	375	15	1	14	..
Newton Heath .. .. .	..	..	..	..	1	1	..	41	..	..	41	..	30	..	..	9	..
Longsight	1	..	9	48	2	38	68	161	..	..	158	1	160	1	..	4	..
Fallowfield .. .. .	..	..	..	100	..	61	20	380	..	..	379	1	296	..	1	7	..
Levenshulme .. .. .	..	..	3	32	..	34	13	347	..	..	347	..	179	12	..	30	..
Gorton	38	28	4	449	219	764	101	1,423	..	..	1,421	..	809	338	62	234	..
Didsbury	16	14	..	8	..	48	4	183	..	..	174	1	52	102	2	9	..
Totals	1,787	1,452	177	4,089	1,359	4,566	2,933	12,929	43	..	12,397	418	8,314	3,536	192	1,607	..

CITY OF MANCHESTER.

TABLE 3—HOUSE TO HOUSE INSPECTIONS, 1921.

This Table is comparable with figures given in the Census Report, 1911.

No. of Rooms per Tenement	No. of Individuals in Private Families or Tenements			No. of Individuals per Room.			No. of Children under 10 years per Family or Tenement			Over 2 Individuals per Room		
	Families or Tenements	Population	Individuals per family or Tenement	Rooms	Population	Individuals per Room	Families or Tenements	Children under 10	Children per Family or Tenement	Families	Population	Individuals per Room
One	2	3	1.5	2	3	1.5	2	Nil	Nil	Nil	Nil	Nil
Two	406	1,157	2.8	812	1,157	1.4	406	317	0.78	18	116	3.2
Three	1,902	8,177	4.3	5,706	8,177	1.4	1,902	2,154	1.13	115	979	2.8
Four	5,135	22,802	4.4	20,540	22,802	1.1	5,135	5,241	1.02	46	478	2.6
Five	3,041	14,235	4.7	15,205	14,235	0.9	3,041	2,555	0.84	12	144	2.4
Six	1,478	7,322	4.9	8,868	7,322	0.8	1,478	1,156	0.78	1	13	2.2
Seven	564	3,075	5.4	3,948	3,075	0.8	564	434	0.77	—	—	—
Over Seven ...	444	2,566	5.8	—	—	—	444	330	0.74	—	—	—
Totals ...	12,972	59,337	4.6	55,081	56,771	1.03	12,972	12,187	0.94	192	1,730	2.7

HOUSING ASSISTED SCHEMES.

The Housing Manager submits herewith Statement showing the number of houses completed and occupied during the year 1921 under the above schemes.

[illegible]

EXTRACT FROM THE REPORT OF THE MARKETS COMMITTEE FOR THE YEAR
ENDING MARCH 31ST, 1922.

(a) AMOUNT OF UNWHOLESOME FOOD CONDEMNED DURING THE
YEAR ENDING 31ST MARCH, 1922.

Meat and Fish.

	1921-22	1920-21
	LBS.	LBS.
Beef	639,693	753,880
Mutton	46,187	171,811
Veal	12,276	28,116
Venison... ..	1,112	250
Pork	93,835	96,766
Imported Offals	17,034	14,114
	810,137 = 361 $\frac{3}{4}$ tons	1,064,937 = 475 $\frac{1}{2}$ tons
Fish	408,268	409,440 $\frac{1}{2}$
Shellfish	29,582	28,253
	437,850 = 195 $\frac{1}{2}$ tons	437,693 $\frac{1}{2}$ = 195 $\frac{1}{2}$ tons

Other Food Stuff.

	1921-22	1920-21
Game (Head)	1,006	245
Poultry (Head)	5,769	3,099
Rabbits (Head)	54,319	64,814
Rabbits (tinned) (lbs.)	—	720
Fruit (lbs.)	68,270	178,533 $\frac{1}{2}$
Vegetables (lbs.)	210,241	187,167 $\frac{1}{2}$

	1921-22	1920-21
	NO.	NO.
Eggs	32,828	44,468
	LBS.	LBS.
Condensed Milk	35,189	49,046
Yeast	6,334	3,684
Cheese	19,293	5,450½
Sweet Meats	1,008	—
Soup Powders	262	—
Tapioca... ..	224	—
Liquid Eggs	30	1,216
Honey	165	—
Butter	—	251½
Lemon Cheese	—	¼
Coffee and Milk	—	16
Cocoa	—	¼
Sauce	—	2½
Margarine	—	30
Sugar	—	79
Pastry	—	20½

With the exception of the following, which were seized while deposited or exposed for the purpose of sale, the above quantities were surrendered after being condemned by the Inspectors of the Department.

	1921-22	1920-21
	LBS.	LBS.
Meat	295	806
Fish	39½	—
Fruit	53½	—
	HEAD.	HEAD.
Rabbits... ..	73	—
Fowl	15	—

NOTE.—The term "surrendered" includes cases in which the Inspectors have discovered the diseased meat, etc., in the course of their duty, but in which, owing to salesman's acceptance of Inspector's decision, it has been deemed unnecessary to obtain Magistrate's order prior to destruction.

PARTICULARS RELATING TO THE OPERATIONS OF THE CLEANSING DEPARTMENT.

The Medical Officer of Health is indebted to Mr. Williamson, Superintendent of the Cleansing Department, for the following particulars relating to the operations of the Cleansing Department during the year ending 31st March, 1922.

Cleansing Department,
Town Hall, Manchester,
September 30th, 1922.

Dear Sir,

The administration of the Cleansing Department of the City of Manchester is under the supervision of a Superintendent, with a staff of about 50 officials and nearly 1,800 workmen.

The extent of the Department's operations may be gathered from the following general statistics :—

The gross expenditure of the Department during the year ended March 31st, 1922, was £477,264, and the gross income £104,209, the net cost being £373,054.

The wages of the Department for the year amounted to £319,053, including bonus.

For Departmental purposes the Cleansing of the City is divided into a Nightsoil Section and a Scavenging Section.

The work of the Nightsoil Section includes the emptying of old privies and pail closets and the collection and disposal of household refuse ; whilst the Scavenging Section deals principally with the cleansing of the streets and disposal of refuse collected therefrom.

Nightsoil Section.

There are within the City 158,059 dwelling-houses, 4,511 lock-up shops, and 4,158 workshops. From these premises during the past year there was collected and disposed of 191,012 tons of ashes, 5,712 tons of nightsoil and pail contents, 17,132 tons of warehouse and trade refuse, 3,013 tons of slaughter-house refuse, 3,663 tons of stable manure, and 2,042 tons of fish refuse.

Previous to 1872 the midden-privy system was in operation, but the Corporation then decided upon the introduction of what is known as the pail-closet system, the scarcity of water preventing the adoption of the water-carriage method. Since the water difficulty has been solved, the conversion of pail-closets into water-closets has been proceeded with, and is rapidly nearing completion. There are now only 217 privies and 1,310 pail-closets within the City.

In later years it was decided to replace the wooden ash-boxes by galvanized iron receptacles with lids, and there are now 160,347 of the latter ; the number of wooden ash-boxes being reduced to 1,681.

TABLE SHOWING NUMBERS OF PRIVIES, PAILS, ASH-BOXES, AND ASH-BINS FOR PERIOD 1911-1922.

Year	No. of Privies (with Ashpits)	No. of Pails	No. of Wooden Ash-boxes	No. of Galvanized Iron Ash-bins with Lids
1911	5,218	15,624	56,494	74,494
1912	1,982	10,000	50,421	88,762
1913	292	3,850	41,645	101,239
1914	218	2,128	31,875	112,843
1915	157	1,710	24,677	121,191
1916*	236	1,671	16,653	142,107
1917	230	1,665	12,469	146,246
1918	230	1,633	11,230	147,616
1919	217	1,327	8,011	151,609
1920	217	1,326	4,827	153,962
1921	217	1,322	2,181	156,587
1922	217	1,310	1,681	160,347

* District of Withington incorporated.

The removal of domestic refuse takes place once a week.

The fleet of barges for removal of refuse is now 12.

Five motor and 57 horse-sweeping machines were employed in the street in 1921, a total of 93,828 tons of sweepings, litter, etc., being collected as compared with 88,817 tons in 1920.

The receipts from mortar mills in 1921-1922 was £3,578, compared with £4,531 in the previous year.

General.

The total weight of material dealt with by the Nightsoil and Scavenging Sections of the Department during the year was 339,914 tons, being equal to over 1,000 tons per working day.

TABLE SHOWING THE DISPOSAL OF MATERIAL COLLECTED TWELVE MONTHS
ENDING MARCH, 1922.

	Tons	Tons
Nightsoil to Department's Estates	7,899	
„ „ Farmers	264	
„ „ (Pail contents) to Farmers.. .. .	598	
	—	8,761
Stable Manure to Department's Estates	2,955	
„ „ Farmers	500	
	—	3,455
Clinkers to Department's Estates	6,196	
„ „ Contractors	798	
„ „ Allotments	5	
„ „ and Rubbish to Tip	114,176	
	—	121,175
Sweepings to Estates	14,848	
„ „ Farmers.. .. .	4,957	
„ (rough) to Tips	39,097	
„ to Allotments	2,644	
	—	61,546
Rubbish (Ash-box Refuse) to Estates		38,759
Market Garbage to Farmers' Carts		1,244
Concentrated Manure		667
Sand on Streets		2,648
Stone Clippings on Wood Pavements		550
Mortar		6,287
Old Irons and Tins, Glass, Soap, Grease, and Waste Paper		548
Burning and Drainage		94,274
Total		<u>339,914</u>

The amount of refuse taken to the Carrington and Chat Moss Estates since they were purchased by the Corporation is as follows :—

Chat Moss Estate	1,223,738 tons in 24 years.
Carrington „	1,012,992 „ 34 „

The number of farm tenants on these estates is 55, occupying 52 farmsteads and 3 extensive nurseries.

The Corporation erected the farmsteads, together with an adequate supply of town's water. The market value of the estates has considerably increased since their purchase, chiefly through cultivation and owing to the proximity of the Manchester Ship Canal.

I remain,

Yours faithfully,

R. WILLIAMSON,

Superintendent.

Dr. James Niven,
Medical Officer of Health,
Manchester.

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